The Builder.

No. CCLVIII.

SATURDAY, JANUARY 15, 1848.

THE distressing accident which happened at the Euston-square Railway station on Thursday, in last week, is probably known, through its fatal results, to most of our readers.

Works of very great magnitude are going on there, under the direction of Mr. Hardwick, the Company's architect, including a grand passenger-hall, about 120 feet long, 60 feet wide, and of considerable height, on which, if we are rightly informed, many thousands of pounds are to be spent. At one end of this fine apartment, the inclosing wall, of great thickness, was carried on a range of columns 2 ft. 4 in. in diameter, and 20 ft. high, formed in brickwork, to be covered with cement. This wall it was that came down (shattering a number of the workmen in its fall, one of whom, John Shea, a labourer, afterwards died), notwithstanding that, according to the evidence, it was erected in the best manner, and of the best materials,—a statement we should believe, as Mr. William Cubitt is the contractor employed. In which part of the construction the failure occurred, or what was the cause of it, appears not to be known; at least it was not elicited at the inquest, which was held on Monday, to inquire touching the death of the labourer who was killed. Indeed the inquiry was altogether of a very unsatisfactory character, and ought not to pass without severe comment.

It is most important for the interests of science, as well as for the sake of the public, that such an occurrence should be fully investigated to the utmost, and satisfactorily explained, whereas on the present occasion it has obviously been unwarrantably slurred over: no evidence was taken that can be in any degree satisfactory to the public, and no real attempt was made to arrive at a knowledge of the cause of the accident. Even the principals themselves were not examined, still less any impartial scientific men, possessing the confidence of the public, who ought unquestionably to have been called in to aid the inquiry.

We cannot avoid saying, that both the deputy-coroner, Mr. G. T. Mills, who presided, and the jury, stopped far short of their duty.

The only witnesses called were the men employed on the building, and Mr. Bavin, the architect's clerk of the works: we will give the material parts of their evidence.

John Hickman, a bricklayer, stated that he was at work at the time of the accident, upon a scaffold several feet from the ground. He was just about laying the top row of bricks upon the wall, when he suddenly observed the wall to bulge in the centre; he sprung from the scaffolding and escaped with a few bruises. He believed the whole of the work to be sound and firm, both as it regarded the quality of the materials and the excellence of the construction of the whole work. Could not account for the accident.

James Stevenson, foreman of the bricklayers, said the portion which had fallen consisted of a strong foundation-wall 7 feet wide, on which was a common pedestal of the like width, built crossways to the wall to receive pillars, upon the top of which latter an entablature and further wall was to be placed. The pedestals and pillars were the best kind of brickwork, put up with cement. The pedestals, the pillars on which had given way, were begun on the 21st of October, and finished on the 30th. On the 11th of November the columns were begun, and on the 22nd of that month they were ready to receive the entablature, with the upper portion of the wall. The pillars were eight in number. They were built in twos, about 20 inches apart, and there was a space of 7 feet between each pair. They were connected on the top by iron tension-rods, on which the entablature was placed.* None but the best workmen were employed in constructing the pillars; 5s. 6d. per day wages was paid to them. None of them had ever complained of the work being proceeded with too hastily. Witness could not account for the accident, and should have no objection to build from the same drawings again. He considered brick pillars in such a building perfectly safe, and his impression was that the superincumbent wall and not the pillars had given way first. The arches were begun on the 11th of December.

The coroner asked, Why a solid wall was not raised instead of the pillars, and witness replied, He couldn't say.

The coroner might as well have inquired why an opening is left for a door, or a bressummer put in for a shop front.

The witness continued,—He could not say positively, but should think the wall gave way about the centre: why it should do so couldn't tell.

Robert Batterwick, a foreman, said, though the works were done by contract, as between Messrs. Cubitt and the railway company, they were not so as regarded the men. He had never been apprehensive of danger, nor could he account for the accident. The columns were 2 feet 4 inches diameter, and 20 feet high. Between them and the outer wall of the building ran a gallery communicating with the various rooms in the station. Witness could suggest nothing calculated to prevent a similar accident. Witness did not think the works had been hurried, and, according to common calculations, the columns were sufficient to bear five times the weight they had upon them. The brickwork and masonry in all the new erections, at the Euston-square station, were of the most substantial character. Couldn't tell what occasioned the accident. Had not heard any opinion expressed as to the cause of it.

In reply to questions put to him, said the new building was to be erected on the same principle, but that some little difference might be made. Had seen columns built proportionably large, but never of that magnitude. Thought the plan was good.

Christopher Bavin, Mr. Hardwick's clerk of the works, produced a section of the building. It was his duty to overlook the works; he had done so, and had never discovered cause for complaint. In rebuilding the wall he should proceed precisely on a similar plan, and should not advise the use of stone instead of brick in the construction of the pillars.

The coroner remarked that if the building was to be put up again in the same way, it appeared a startling fact that the architect did not know how to act to prevent the recurrence of such an accident?

* In what condition, after the accident, were these rods found?

A "startling fact" indeed, if it were true; but on what ground the remark was made does not appear. The architect himself might at all events have been asked if this were really the case.

The coroner having suggested that possibly the wall started in consequence of some shock, Mr. Bavin said, that his impression was, that it was from some sudden displacement of the scaffold, from the snapping of a cord. The vibration of the scaffold would act upon the wall, and, perhaps, this might result in the downfall of it.

The coroner, in summing up, said, that if the jury felt satisfied, they might return a verdict to the effect that they had no evidence as to the cause of the accident; but if they desired to have the opinion of any impartial scientific man, he was quite ready to adjourn for that purpose. [He ought indisputably to have called for it himself.] It must, however, be borne in mind, he continued, that prudence was the result of experience, and, though improvements in the construction of similar works for the future might probably be suggested, still that would be no ground for imputing blame in the present instance.

The jury were of course satisfied to the extent suggested,—namely, that "how the wall fell there was not sufficient evidence to prove," and so included those words in their verdict as the quickest way of getting rid of the business. It does not appear to have occurred to them that it was their bounden duty to make every effort to *obtain* "sufficient evidence" of how the wall fell: for, so far from doing so, they omitted taking the most ordinary and obvious means of arriving at the truth.

All our readers will, we are sure, agree in thinking that this inquiry was conducted in a strikingly unsatisfactory manner, and that a further investigation is not merely most desirable, but should be insisted on. The position of both the architect and the builder (for whom we have great respect) places them so far beyond cavil, that our remarks cannot be supposed to have any personal reference, and enables us to call the more strongly for further information without fear of having our motive misinterpreted.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

THE lectures on architecture, at the Royal Academy, which were omitted last year, were resumed on Thursday, the 6th inst. The professor devoted his attention mainly to one or two points, alluded to incidentally in former lectures, but upon which he now dwelt with some stress. In introducing his subject, he described the view which he took of the purpose of these lectures, in which he was guided by the law of the Academy, and said that, having devoted a life to the subject, he endeavoured to expound those theoretical canons which are to be sought for in the examples of architecture. Thus, one year he had treated of the history of the art by its monuments, when he had first exhibited to them the large drawings of buildings in all parts of the world, and of all ages, and the large sheet of plans, drawn to the same scale; looking at which, he might use the words of Napoleon, when addressing his troops before the Pyramids:—"*Quarante siécles vous contemplent.*" These were the materials for the practice of the art; and without such they could do little:—as Sir Joshua Reynolds had said, "Nothing can come of nothing." In another course he had treated of the laws and principles of composition, which were most important parts of the studies required by his hearers, for though fashions were changing, and science constantly contributing to the resources of the architect, still these laws would be unaltered whilst the law of gravitation continued to

govern the working of the universe. Science was ever undergoing modifications, but the principles of art were unaltered by lapse of time. In another course he had entered into some account of the extensive architectural library, which the student should constantly be familiar with. Isocrates had said, "If you mean to be an architect, you will have great need of books." Through the want of a proper knowledge of what was contained in books, there was often the impertinence of calling those things discoveries, which were actually lying under our very noses. By Professor Willis it had been shewn, that the whole theory of the *coupe des pierres* of the Gothic architects—to discover which much labour had been incurred—was all clearly detailed in the work of Philibert de l'Orme. Another instance was in the use of concrete, which had been used by the Romans, and even so late as to have been employed by Sir Christopher Wren. About the time of the death of that great architect, it had been discontinued, and the method of building upon planks had been introduced from Holland, for which country, being employed where they were constantly wet, it might be well adapted; but, on a *moist* soil, the results had taken place which it was now felt to be so necessary to guard against. He then related the anecdote of the contest for a prize for the best poetical work, in which one competitor having decidedly produced the most beautiful poem, the judges were loud in their plaudits, except Aristophanes alone, who was silent, and who, on being asked the reason, produced the work of an author in which the same ideas and language were discovered—thus leading to the prize being conferred upon the competitor who really deserved it.—But he admitted that the multifarious business of the architect presented great difficulties in the full accomplishment of what was desirable.

In noticing the different opportunities for educating himself, now open to the student, as at the two London colleges and elsewhere, and the position of architecture in that academy, where it was united with the grand arts of painting and of sculpture, the lecturer reminded them that beauty was a part of the great scheme of the universe, and should constantly be sought for, along with those indispensible objects, to be provided for in our temples and habitations. Associated, then, as architecture was with the other arts, it became desirable to estimate exactly the advantages derivable from each, and what were to be the objects on which they should concentrate their attention; for, already, if the requirements of Vitruvius were to be insisted upon, it would be impossible to fulfil them: whilst every day, and every moment, had its allotted duty, we must not suffer ourselves to be distracted by pursuits which, however interesting and praiseworthy, are not clearly included in the objects of architectural study.

He then noticed the tendency in architectural drawing to imitate the art of painting, and he characterized it as contrary to sound doctrine and practice. The picturesque had been fatal to architecture in the 17th century; proportion, composition, knowledge of solids, and similar subjects, should occupy all their study, leaving the colours of the rainbow to the painter: pictorial illusion was lost time to them. Two causes had contributed to the circumstances he had referred to, the juxtaposition of architectural drawings and oil-paintings in the exhibition, and the public applause which was accorded to the works of the architectural draughtsman,—but all regrets were ineffectual.

The professor said that rarely had art and science been united in one individual; Wren was almost a solitary instance. Plato had spoken of there being in his time only one architect. Philibert de l'Orme had said that pretty drawings were but nets to catch a customer, and that those who make pretty drawings are those who least understand architecture. On the other hand, of the painter architects,—Scamozzi had said that the architect should have a consummate knowledge of drawing, and he spoke of the art of drawing as "a heavenly gift." Inigo Jones was rather a painter-architect,—Palladio had a better knowledge of construction. After mentioning that the aspiring character of architecture unquestionably proceeded from the pointed style, and that the dome of St. Peter's, at Rome, far from being that of the Pantheon raised in the air, as had been the common assertion, was distinctly traceable from medieval times; he said that when the position of the architect became elevated, pedantry overcame him; instead of "master," he was called "architect," and he then expressed by lines, what, previously, he had shewn by model and direction: since, he had further declined, and sought by ill-drawn lines and much cobalt, to vie with the works of painters. In reference to the importance of both art and science, it might be said, that each might have its own votaries, and the department of taste had, on the whole, been more successful than the mathematical.

He then pointed out some of the subjects in which the architect might be indebted to the landscape painter. Perspective was all in all to the architect, and nothing but companionship with the painter would give him that knowledge of the various points connected with the position of buildings in reference to surrounding scenery, and with their effect when executed. He exhibited a diagram from Möller's work, in which the altered appearance of a lofty building when viewed as a geometrical elevation, and in execution, were strikingly shewn. He recommended studying, by means of drawings on a small scale, the effect of outline, as not less important than that of detail. Vanbrugh, he was quite persuaded, had, with this object, made drawings of his buildings on a small scale; for, when they were approached, great want of correct detail was apparent. The Adams seem to have been the converse of this; with them, outline was disregarded.* He thus considered that the advantages to be derived from association with painters, were purely lineal, and not in colour and polychromy. All the drawings of the great masters, some of which he referred to at Bologna, sent in competition for the church of San Petronio, and which were by Palladio, Vignola, and others, had no colour nor meretricious attempt to seduce the judgment, but rigid outline.

In the decline of art, a different system prevailed; there were paintings in sculpture; perspective was attempted in bas-relief. Raphael had always avoided such errors, so did Vignola and Palladio; but Michaelangelo first sowed the seeds of the decline, which Borromini and Bernini carried out. Vasari's work is full of accounts of the perspective painters of his day.—He also alluded to the scrolls surrounding the tambour of the dome in the church of Sta. Maria della Salute at Venice, as instances of the state of things he had described. Their design was entirely unsuitable for masonry, in which he appeared to think that there should always be a recollection of the method of laying in courses. These scrolls were better adapted for metal work.—He had thus shewn the advantages which the architect could derive from painting and sculpture, and likewise the disadvantages. The architect's use of drawing was to be, in fact, to produce such delineations as a workman could comprehend.—The professor concluded by giving an anecdote related by the Marquis of Northampton, respecting an attendant in his family, showing the powerful effect which the architecture of the northern cathedrals could produce upon one who entered one of them for the first time.

THE POLYTECHNIC INSTITUTION.—At this admirably conducted institution, in Regent-street, where sound instruction and amusement are made to go hand in hand, Dr. Ryan has commenced lecturing on the chemical character of vitiated air,—the nature of infection, and the history of remedial agents. The Doctor very properly cautioned his hearers against trusting to any deodorising system, but to strive for perfect ventilation and cleanliness. The works for the new theatre are advancing rapidly. Mr. Thompson, the architect, had recently a very narrow escape. He fell off a scaffold, and was much knocked about, but has now recovered.

* So we understood the professor; but we think some of their works, and, in particular, the drawings preserved in the Soane Museum, would establish the fact, that they were not inattentive to outline, and that, in fact, they adopted the plan of making preliminary sketches on a small scale. In studies of plan, the collection we have alluded to has great interest.

ROYAL INSTITUTE OF ARCHITECTS.

AN ordinary meeting was held on Monday evening, the 10th inst., Mr. Charles Fowler, V. P., in the chair, when a large number of presents were announced, including drawings of the Town Hall of Morpeth, considered to be by Vanbrugh, from Mr. B. Perry, and a work from M. De Lassaulx, of Coblentz, on the construction of churches, with especial reference to a mode of forming vaults, to avoid the necessity for buttresses, and admit of the use of thin walls. Several members were elected.

Mr. Tite then introduced to the meeting Mr. Layard, whose communications from Nineveh, communicated through Mr. Mair [printed in THE BUILDER], had afforded so much gratification; and he expressed a hope that he would increase this by a personal communication.

Mr. Layard expressed his acknowledgments, and said if matters of interest presented themselves during his travels he would not fail to communicate them to the Institute. He had little to say of the external architecture of Nineveh: scarcely a fragment of the walls remained which would afford a clue. The date of the ruins discovered was still a mystery, but there could be no doubt of their extreme antiquity. He would afford them one proof of it: the earliest buildings in Nineveh were buried, and the earth which had accumulated over them, had been used as a burial place by a nation who lived 700 years before Christ. Probably the buildings dated from 1,200 years before Christ. The rooms were lined with slabs of marble, covered with bas-reliefs, such as those now in the British Museum, which were joined together by double dovetails of iron. The doorways were flanked by winged figures of greater height than the slabs: on all these figures was the mark of blood, as if thrown against them, and allowed to trickle down. The walls were of sun-dried bricks, and where these shewed above the sculptured slabs, up to the ceiling, they were covered with plaster and painted. The beams, where they remained, were found to be of mulberry. That the slabs should have been preserved so long puzzled many. In truth, however, the bricks, being simply dried in the sun, in falling had returned to earth, and had thus buried the tablets and protected them. The buildings, he said, were provided with a complete system of *sewerage*. Each room had a drain connected with a main sewer. Mr. Layard then proceeded to say, that in the midst of the ruins he had discovered a small chamber, formed of bricks *regularly arched*. The dates of these buildings were, as he had said before, lost in obscurity. Certain it was, however, that Nineveh was utterly destroyed 700 years before Christ, and the bas-reliefs sent over by him belonged to an earlier period, because they were, in many cases, found in positions shewing that they had been taken from other buildings and re-used: the sculptured face of the slab, for example, was turned to the wall, and the back re-worked.

Mr. Bonomi expressed surprise at hearing that the cramps were of iron: in Egypt they were all of wood.

Mr. Donaldson (first remarking that the cramps of the Parthenon were of iron) said that Mr. Layard was entitled to their applause for what he had done, especially when it was remembered that most of it had been effected at his own risk and cost, and that he had successfully competed with those investigators who were sent out by the French Government. It was desirable that we should be acquainted with the modes of construction pursued at different periods. Relative to the sun-dried bricks, he should be glad to know if the external face of them were covered with plaster to keep out the wet.

In reply to this and other questions, Mr. Layard said he did not know of any external plastering: the interior colouring was partly enamelled, and displayed human figures as well as decorative ornaments. The chamber of which he had spoken was covered by a perfect arch of bricks, was nearly a semi, and 12 or 14 feet in diamenter. The sewers were not arched.

Before proceeding to the paper of the evening, Mr. I'Anson said he wished to correct a statement made at the last meeting by the present

chairman, to the effect that the new sewers of Hamburgh were *egg-shaped*: they were oval.

Mr. Poynter then read a paper on "Ornamental Leather Hangings," which was illustrated by a number of fine specimens contributed by Mr. Pratt. The reader ably traced the history of this material, shewing its use in Egypt at a very early period, and giving numerous instances of its occurrence in old buildings. In the sixteenth and seventeenth centuries, after its use had been revived, it was very extensively employed. A fine leather was used, on which figures were either impressed, or merely painted. It was not certain that there was any manufactory of it in England: it was chiefly imported here from Belgium and France. Where it was first generally used in modern times was doubtful—some thought Spain, others Venice. It was, at all events, certain that at Venice, in the seventeenth century, the use of leather hangings was universal. The first step in the process of preparing the leather, after joining the skins, was to silver the whole surface: parts which were required to look like gold were varnished with coloured varnish. After being silvered, the leather was laid on blocks, on which the forms required had been cut, and passed through a press. The borders and more minutely decorated portions were executed with metal stamps, such as bookbinders used,—a more costly process. At Blenheim, in what was called the Titian Gallery, the paintings were executed on leather, and were, as every one knew, not by Titian. The reader described some fine examples existing in Rouen, also one that was exhibited, of which the subject was Antony and Cleopatra,—one of a series which formerly belonged to the celebrated Lord Clarendon. He trusted that when museums were formed illustrative of the arts of the middle ages, specimens of ornamental leather hangings would not be wanting.

Mr. Crace said, that in Paris they employed plaster moulds to give the impress to the leather, and used much flock to ornament the face of it.

The chairman, before adjourning the meeting, said it was his melancholy duty to allude to the loss of two members of the profession. The first was Mr. Kay, a member of the Institute, whom all there knew and respected, and with whom he had been intimately associated during the early steps for establishing the Institute. The second, Mr. Lonsdale Elmes, was not a member of the Institute, but, as a most promising architect, claimed their regret. The works he had executed in Liverpool reflected the greatest credit on him. Some time ago, when the prince consort was in Liverpool, he went over these buildings, and was so well satisfied with them, that he presented to Mr. Elmes a gold medal. A slight fall, it appeared, getting out of a carriage, was the immediate cause of Mr. Elmes' death, at the early age of thirty-two; but disease existed which would probably have carried him off.

A NEW PICTURE OF PART OF LONDON.

THE GOLDEN-LANE DISTRICT.

THE calamitous circumstances affecting the public health and welfare which have rendered legislation for the sanitary improvement of towns so urgent, to secure all classes that amount of health and comfort, without which other and higher bestowments too often fail to accomplish their purposes of amelioration, are too well attested by the irresistible evidence of facts, to break down under any weight of opposition, and must force their way to speedy triumph. For without the vantage ground of some such improvements in our social state as it is the object of sanitary reform to develop, religion and education will have to struggle with disadvantages calculated powerfully to obstruct, not to say defeat, their combined attempt to achieve the regeneration of society.

When it is considered how imposing a portion of the whole nation towns constitute, and with what rapidity they are increasing, such a fact as the following speaks trumpet-tongued. It appears that while one million of the inhabitants of large towns lose annually upwards of 27,000 of their number by death, the same number of the inhabitants of rural districts, suffer a loss of only 19,300; the loss on the part of the million of inhabitants of large towns exceeding that of their more favoured fellow-countrymen, by little less than 8,000.

In the rural districts the deaths are as 1 in 55; in towns as 1 in 38; the average in the two being 1 in 46. In Rutlandshire, to take a particular county, the average of human life is twice the duration of that of Manchester; and from this latter place regiments are twice recruited, for once from the rural districts: such is the broad distinction between the health of towns and the health of the country.

Many parts of the metropolis are in so dreadful a condition, seldom visited by those capable of inducing improvement, that a description of them would scarcely be believed.

The neighbourhood of Goswell-street (St. Luke's), Whitecross-street, Golden-lane, and Old-street, presenting labyrinths of courts and alleys without any drainage, affords an example of this, and we are glad to find that a local committee has been formed, through the endeavours of Mr. F. Moseley, for ameliorating the calamitous condition of the neighbourhood; and that a petition to the legislature, praying for a bill of health, is in course of signature.

After pointing out the way in which every inch of the ground has been covered, the petition shews "that, under such circumstances, the most hardy frame amongst the inhabitants became weak and a prey to ill health; fever and pestilence prevailed, and death made rapid strides, when a fresh source of enterprise was embarked in, though further prejudicial to the health of the district (the formation of graveyards), in the midst of a population whose understandings were not sufficiently informed to be able to appreciate the insidious agents of sickness and death in activity around them. Five of these graveyards are situated between Golden-lane and Whitecross-street, a space of six acres, and upon which 6,000 people are packed. Three out of the five of these graveyards thus commenced, being the speculation of undertakers.

That it is within the present century that this social revolution has been produced (this memento of disregard for fellow-man) by which 13,000 of their fellow creatures are now dragging out the days and nights of their existence in abodes barely fit for animals, without underground or surface drainage, any thorough draught of air (the entries to this labyrinth being by narrow archways, of which from Golden-lane alone there are thirty, and the multiplicity of courts which branch off being *cul-de-sac*), while the rooms generally have not been built more than 12 feet square, and each appropriated to a family in which they live, sleep, and many carry on trades."

"That with these sources of pestilence, there are as surely moral contaminations which alike radiate and diffuse their effects, sooner or later, over the metropolis. Long familiarity with all kinds of loathsome sights and stenches outside these miserable abodes, begets an indifference to cleanliness and neatness in the interior, which soon extends to their personal habits. Men and women crowded together in these courts and alleys, are thus withdrawn from observation and the influence of good example, and are neither shamed out of vice nor won over to the practice of virtue."

Is it to be wondered at that the clergy and more intelligent inhabitants of this miserable district are at last speaking out?

AWARDS OF OFFICIAL REFEREES.

OUTBUILDINGS AND FENCES.

MR. R. P. BROWNE, of Greenwich, laid information against Mr. Slous, of Lewisham-road, to the effect that the latter, without having given notice, had erected a shed building at the back of his house, composed wholly of wood, contrary to Schedule D, parts 1 and 2, of the Act.

At the hearing of the case, Mr. Slous admitted that the works had not been altered in pursuance of the notice within forty-eight hours from the date of it, but stated that he had subsequently *removed the slating of the roof*. It appeared from the statements of the parties that the erection in question was inclosed at the back and sides by wooden party fences, which Mr. Slous had raised with weather boarding to the further height of 18 inches, and in front by a wooden inclosure with doors and windows in it, and that the erection adjoined to the gardens of other premises on each side, and to a brickfield not in the occupation of Mr. Slous at the back, but that there was no building within 60 feet from it. Mr. Slous contended, that having removed the slating off the roof he had rendered the erection conformable to law, *the inclosures being now merely wooden fences, and not inclosures to any building*; and, further, that being himself only a tenant-at-will, and his neighbours on each side being also tenants-at-will under the same freeholder, who was also the leaseholder of the ground adjoining at the back, the erection in question, if it should be deemed to be a building, was insulated within the meaning of the Act.

The Official Referees awarded as follows:—

"That notwithstanding the removal of the slating, the erection in question is a building within the meaning of the Metropolitan Buildings Act, and that inasmuch as the said building stands adjoining to ground in other occupation on three sides thereof, the same is not insulated within the meaning of the said first-mentioned Act; and that the said building not being inclosed with the materials by the said Act directed to be used for building external walls and party walls, and not having footings as required by the said Act, is contrary thereto, and we do hereby direct the said Thomas Davis Slous forthwith to remove the same."

Costs of the office, 1*l.* 8s. 6d., and 1*l.* 1s. to the district-surveyor, to be paid by Mr. Slous.

*** We have received a letter on this matter stating, that in removing the slates, Mr. Slous thought he was fully complying with the surveyor's request. The letter continues,—"The charge brought by the district-surveyor when before the referees was, that the part added to the fence ought to be removed as well as the slates; he also contended that the front, being formed with doors and glass, could not be considered a fence, and he was justified in taking the whole into the account, as forming a building. Mr. S., in reply, contended that the Act did not prevent him from raising the fence. (This point was admitted by the Official Referees.) Mr. S. also contended the front was no more than a cross fence, although it was formed with doors and glass, there being no roof, and by retaining it he did not infringe upon the law. He would ask, could not he have a fence with a plain surface, and call in an artist to sketch on the face of it a similar front to that just removed, or any other picture the pencil could shadow forth. This point was also admitted; and yet, in the face of these plain facts, they think proper to condemn the whole as a building, because it is an inclosure; they might as well say the garden is a building because it is inclosed with a fence."

STEAM PIPES.

An information was laid by the district surveyor for the western part of London against Mr. J. Fraser, of Commercial-road East, to the effect that, no notice having been given as required by the Act, he had fixed steam pipes on the inside of his premises nearer than 14 inches to combustible material, contrary to the provisions of Schedule F and section 5 of the Act.

At a hearing, it appeared that the steam-pipes in question were used for warming a leather-dresser's factory, and for drying leather in course of preparation, for which purpose the heat must not exceed 60 deg. or 70 deg., or the goods would be damaged, and was not for the purpose of the manufacture of japanned leather; that the pipes were 4 inches in diameter, and not inclosed, but laid along over the floors, and from 9 to 4 inches distant from it, and supported by iron blocks raised with wood; that they were supplied from a low-pressure boiler, with which no machinery is connected, but which will stand a pressure of about 30 lbs.; and Mr. Fraser contended that, under these circumstances, the pipes did not come within the Act, and that no notice to the district-surveyor was necessary in respect thereof.

The referees awarded, that "Notwithstanding the low temperature at which the steam-pipes in question are intended to be used, the rule in Schedule F of the Act, as to any metal or other pipe or funnel for conveying smoke, heated air, or steam, does apply to the said steam-pipes, and that notice to the district surveyor ought to have been given by the said John Fraser in respect of the fixing thereof, in accordance with the provisions of the said Act

(sec. 13) in that behalf; and further, that inasmuch as the said pipes are fixed on the inside of the building nearer than 14 inches to timber, the same are contrary to the said Act; but being of opinion that no danger can arise from the said steam-pipes, which are not inclosed, and are nowhere less than their own diameter distant from timber or other combustible material, we defer to make any direction in respect thereof, so long as the same are used for their present purpose only, and not for the business of japanning leather, or any other purpose requiring greater heat."

UNIFORMITY OF TIME.

THE SUN 'SETS CORRECTED.'

SIR,—Several weeks ago I read in your paper some very sensible remarks on the proposal to establish a literal uniformity in all the clocks of Great Britain. I was in hopes that you would have returned to the subject, but I have not seen any further observations from your pen upon it. The notion, however, is, it seems, still entertained and advocated, and even to a certain extent carried into execution: could you find space for a short protest against one of the most foolish and ignorant pieces of quackery that I ever heard seriously suggested?

Much is said about the *convenience* of having the same time all over the country. No doubt this *would* be convenient in some respects, *if it were possible;* but unfortunately it is absolutely *impossible*. Unfortunately, it so happens that the earth takes twenty-four hours to revolve on its axis, and therefore the time at any two spots on its surface (not in the same meridian) *cannot* be the same: why then *call* it so? *Calling* it noon at Bristol at ten minutes to twelve will not make it so, and cannot make it so; it is simply *false*. Time is a *fact*, just as much as space, and just as local in its nature; we might as well insist on saying that Bristol is at the longitude of Greenwich, as on saying that it is noon at Bristol when it is noon at Greenwich.

It is only the *smallness* of England that prevents every one from seeing the entire absurdity of this proposal. Let us imagine it carried to its full extent (and all the arguments for it as applied to this country are just as strong, nay stronger, for its application to the whole world, were it practicable)—let us imagine, I say, one (nominal) time established all over the earth, so that at one place it should be called noon at midnight, at another at sunrise, at another at sunset! Every one will start from the folly, the *nonsense*, in fact, of such a childish attempt to "annihilate both space and time" by Act of Parliament: but because it is only a matter of a few minutes in England, the *reductio ad absurdum* is not so glaring, although the principle, of course, must be the same, whether the variation be great or small.

Even the convenience of the plan I never could see. True, it is convenient *now* for a traveller to know at Bristol what is the London time, because the railway bills are made out by London time; but I could never see *why they should be so*. Why should not the arrivals of the trains be marked in the bills in the *real, i.e.*, the *local* time? Why should everybody be forced either to have his watch *wrong*, or to make a sum whenever he wants to be at a station in time? I can see no reason, except that the present plan saves the persons who make out the railway time-tables and the guards the trouble (no great trouble either) of allowing for the difference between travelling east or west. The convenience of being able to regulate all clocks from Greenwich by electric telegraph has been insisted on; but to attain *that* it is not necessary to have false time; the true difference between Greenwich and any other place being known, the clocks can be regulated accordingly.

Nothing can be really convenient which is contrary to truth, to principle, and to common sense: and I feel satisfied that numerous practical *in*conveniences (not perhaps all yet discovered) must attend the working of this precious plan, to say nothing of it making us the laughing-stock of every scientific man in Europe. We pride ourselves in being a people who "know what's o'clock;" but the favour with which this project has been received makes it but too plain that we do not even understand *the meaning of the words*.

Instead of this agitation for (so-called) uniformity, I wish you, or any other sensible persons, would get up an agitation for truth and reason, and make at once the *quietus* of this proposed nuisance, which, for the ignorance, the wrongheadedness, the utter confusion of ideas that it betrays, is quite a disgrace to the nineteenth century.—I am, Sir, &c.,

Greenwich, Dec. 31, 1847. CHRONOS.

SANITARIAL STATE OF WARE, HERTS.

IN November last a committee of the parishioners was appointed to examine and report on the condition of Ware, and the best means of putting it in a proper state of cleanliness. After a most careful examination, the vicar, Mr. Blakesley, taking as in duty bound a most active part in it, they last week brought up a report on the first part of the inquiry, and will speedily follow it up with a second, containing recommendations. The result of the survey has been "to bring under their notice more than 450 tenements, the occupants of which are suffering from the operation of one or more influences, notorious for their effect in shortening life and generating or aggravating disease of an infectious character. Of these 450, no less than 329 labour under more than one of the evils referred to, and 38 of the number are affected by the whole of them. Reckoning the low average of only four persons for each tenement, there results no less than 1,800 human beings living obviously exposed to preventible causes of disease, which, if originating among them, may easily spread to the remaining part of the population;" and this in a town containing not quite 5,000 persons.

The causes of disease alluded to are—1. Defective surface-drainage. 2. Defective refuse-drainage, 3. Proximity to extraneous accumulations of decomposing substances. And 4. Insufficient accommodation for purposes of cleanliness.

It is to be hoped that the committee will proceed vigorously in effecting the removal of the evils. The necessity must be tolerably clear to every inhabitant after reading the following passage in the report:—

"An analysis of the burial register in the parish church has shewn that whereas during the ten years ending with 1837, the average duration of human life in Ware was $33\frac{3}{7}$ years: during the ten years ending with 1847 it has sunk to $31\frac{7}{7}$ years—being a diminution of more than five per cent. in the length of life, and this although one of the years in the former period (1831) was distinguished by an extraordinary mortality, no less than 134 persons (of whom 79 were under five years) having been buried in the churchyard, and the average age having been in that year brought down to $17\frac{3}{7}$ years."

NOTES IN THE PROVINCES.

The "Elder Brethren of the Trinity" are threatening to desecrate the Nelson column at Yarmouth, by lighting it up as a beacon,—warning all and sundry, we presume, and our trans-channel rivals in particular, that as they are right in alleging that Britannia no longer "rules the waves," *straight* across the Channel at least, we think it of no use longer keeping up a mere show of respect for those who once helped her to do so. The "Elder Brethren of the Trinity," however, were scarcely those who might have been expected to throw *such* a light upon the memory of other days;—but the proposal is one by which the immense sum of one hundred and fifty pounds may be saved, and "twa dougs killed wi' ae stane," as the Glasgow Bailie sagaciously remarked while proposing to make the "moniment o' Nelson" there "a mile stane too." This singular propensity to make monuments to Nelson subservient to some other or secondary purpose, and thus to stamp their original one with obloquy, as more or less unworthy of standing alone in the face of day (or night either, it now appears) is not confined to Yarmouth and Glasgow alone. At Edinburgh the Nelson column is sacred to the memory of "every thing in the confectionary line,"—and, indeed, it is a gimcrack concern itself, such as those of the inverted spy-glass order which we see even surmounting *rounded eminences* within the Taafy shop itself, of which it is at Edinburgh the well-known "sign." But we dare-say there is no fear of the Charing-cross "moniment" being at least converted into "a mile stane too," by any thing like disrespectful inscriptions, for, doubtless, the restrictive order to "stick no bills," may, by a very fair stretch of signification, be held to comprehend either type or chisel within its sweep. We are not so sure, however, after all, that the Yarmouth proposal would be disrespectful, at least so much so as even the "Stick no bills" at Trafalgar-square has so long, by inference, been. It was proposed, even as a matter of respect to Caxton, that his monument should be lighted up, and certainly, considering the uses of lighthouses in guarding our mercantile Navy, and in warning all and sundry, and even the French, against too near an approach to its coasts, the mere lighting up of a monument to Nelson on these coasts, were the unworthy motive kept out of view, might even be made to assume the aspect of an opportune revival of that merited respect with which few of Nelson's monuments seem to have hitherto been treated. ——The church of Methwold, Norfolk, the spire of which is a noted land-mark for many miles, not by water exactly, but over the fen-district, has been restored interiorly in its wood-work, and deprived of its whitewash. An unsightly gallery has been removed, and the western arch, and windows of the steeple restored to view, and open seats for 500 provided.——In the restoration of the carved work in Lincoln Cathedral, the Dean and Chapter are voting annually between 2,000*l.* and 3,000*l.*——St. Neot's Church was to be re-opened on 12th inst., after six months' progress in restoration and repair.——The Rev. William Conway, Curate of St. Nicholas, Rochester, has commenced the erection of a church at his own expense. The estimated cost is about 6,000*l.*, and he intends endowing it with the sum of 50*l.* per annum,—another of those proofs of liberal feeling amongst the clergy which we have so often the pleasure to record, and which we doubt not will lead to still further emulation equally commendable, though probably not among the precise class to which this rev. gentleman nominally belongs, and who unfortunately seldom have the power to display what such an instance may be held to represent the great good-will of even that class of clergy to do, had they but the power.—— A stone font, in memory of the late rector of Darlaston, the Rev. S. Lowe, M.A., has been completed by Mr. P. Hollings, from a design by Mr. Hamilton, of Wolverhampton, architect, and erected in the church.——The Warwickshire Lunatic Asylum Committee have reported to the sessions their decision to erect an asylum for 300 patients, with power of extension, on land purchased of the Earl of Warwick, on a plan to be selected from others already obtained for consideration. At same sessions the County Prisons' Committee reported that Captain Chesterton, aided by Mr. D. R. Hill, architect, had surveyed the present buildings at Coventry and Warwick, and recommended, as the committee itself did, the erection of one new county prison near Warwick, on Mr. Hill's plan, for 350 prisoners, with power of extension. The report was ordered to be printed.——The Gloucester Lunatic Asylum is to be enlarged at the cost of 3,000*l.*——The arrangements for the disposal of the front portion of the Star Hotel, at Southampton, for the business of the Southampton County Court, have been completed, and Mr. Hack, the architect, is engaged in the design for the requisite alterations.

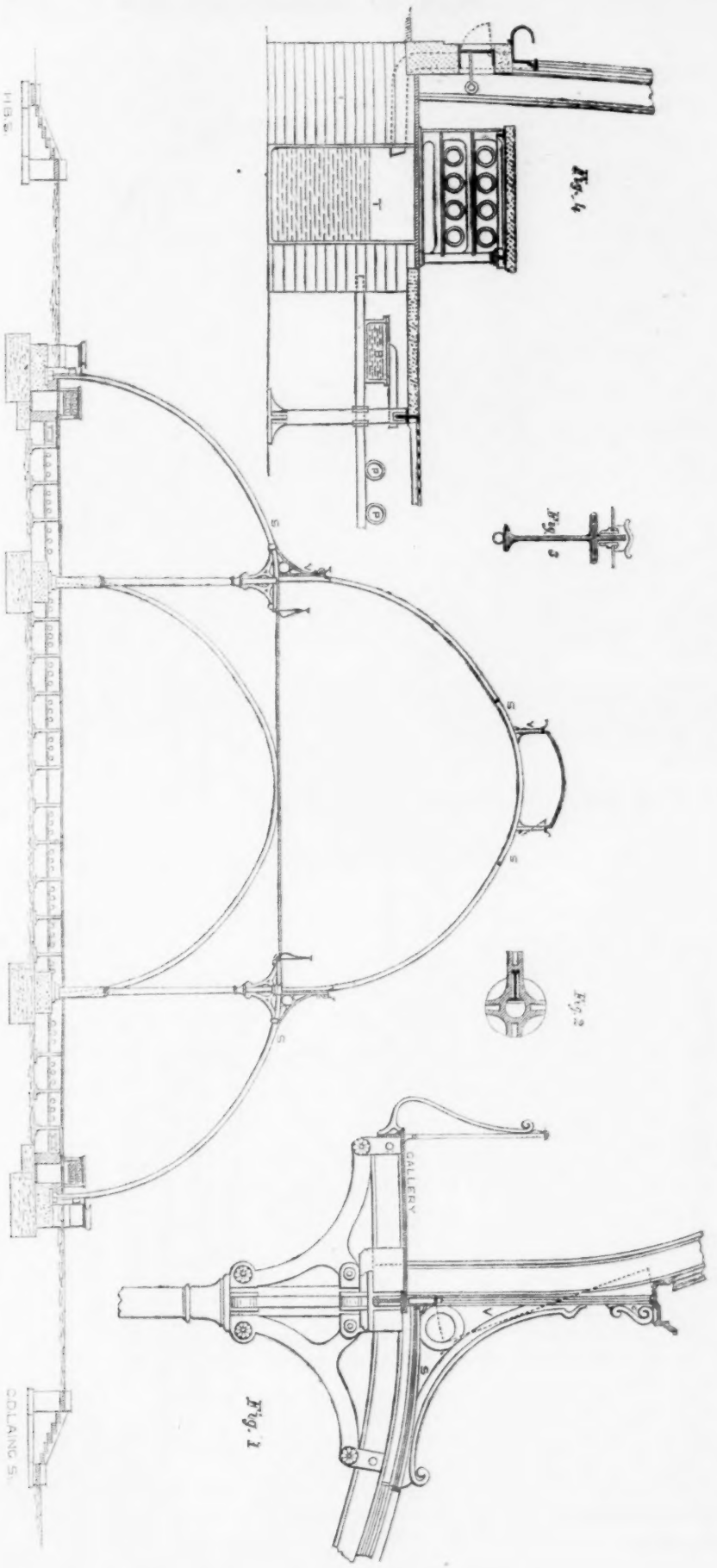
DOULTON'S EGG-SHAPED TUBES.—We mentioned Messrs. Doulton's reply to a letter which appeared in our columns on this subject, some time ago, but as they consider their denial was not put so prominently as the statement, we give place to the following:—

"Sir: In reference to the letter of Mr. Francis in a late number, we beg to observe that the registration obtained by us in October last was for egg-shaped sewers in *glazed stoneware;* that such sewers have not yet been made by any other parties than ourselves; and that if Mr. Francis, or any one else, infringes our right, we are quite prepared to defend it.—We are, Sir, &c.,

HENRY DOULTON AND CO.

Lambeth Pottery, December, 1847."

PALM-HOUSE, KEW.—SECTION AND DETAILS.



THE NEW PALM HOUSE, KEW GARDENS.

"So sits, enthroned in vegetable pride,
Imperial Kew, by Thames's glittering side:
Obedient sails from realms unfurrow'd bring
For her the unnamed progeny of spring."

THE new palm "stove" in Kew-gardens is so remarkable a work, that we feel satisfied our readers, all over the kingdom, will be obliged to us for placing before them full and complete illustrations of it, which we do to-day at considerable cost. It was commenced in the year 1845, by the direction of the Commissioners of her Majesty's Woods and Forests, from the design, and under the superintendence, of Mr. Decimus Burton, architect, and is a worthy example of that gentleman's skill. Before proceeding to describe it, a few words relative to the gardens, now devoted to the public, will not be out of place.

The eldest son of George II., father to George III., first connected Kew House with the royal family of England by becoming its tenant, and forming the pleasure-grounds. The improvements were continued by his widow, and Sir William Chambers was employed as architect, and afterwards published a work descriptive of the gardens and buildings. The orangery stove, temples, &c., put up by Chambers, still remain, and may be usefully studied. George III. bought Kew House,

(sec. 13) in that behalf; and further, that inasmuch as the said pipes are fixed on the inside of the building nearer than 14 inches to timber, the same are contrary to the said Act; but being of opinion that no danger can arise from the said steam-pipes, which are not inclosed, and are nowhere less than their own diameter distant from timber or other combustible material, we defer to make any direction in respect thereof, so long as the same are used for their present purpose only, and not for the business of japanning leather, or any other purpose requiring greater heat."

UNIFORMITY OF TIME.

THE SUN 'SETS CORRECTED.'

SIR,—Several weeks ago I read in your paper some very sensible remarks on the proposal to establish a literal uniformity in all the clocks of Great Britain. I was in hopes that you would have returned to the subject, but I have not seen any further observations from your pen upon it. The notion, however, is, it seems, still entertained and advocated, and even to a certain extent carried into execution: could you find space for a short protest against one of the most foolish and ignorant pieces of quackery that I ever heard seriously suggested?

Much is said about the *convenience* of having the same time all over the country. No doubt this *would* be convenient in some respects, *if it were possible;* but unfortunately it is absolutely *impossible*. Unfortunately, it so happens that the earth takes twenty-four hours to revolve on its axis, and therefore the time at any two spots on its surface (not in the same meridian) *cannot* be the same: why then *call* it so? *Calling* it noon at Bristol at ten minutes to twelve will not make it so, and cannot make it so; it is simply *false*. Time is a *fact*, just as much as space, and just as local in its nature; we might as well insist on saying that Bristol is at the longitude of Greenwich, as on saying that it is noon at Bristol when it is noon at Greenwich.

It is only the *smallness* of England that prevents every one from seeing the entire absurdity of this proposal. Let us imagine it carried to its full extent (and all the arguments for it as applied to this country are just as strong, nay stronger, for its application to the whole world, were it practicable)—let us imagine, I say, one (nominal) time established all over the earth, so that at one place it should be called noon at midnight, at another at sunrise, at another at sunset! Every one will start from the folly, the *nonsense*, in fact, of such a childish attempt to "annihilate both space and time" by Act of Parliament: but because it is only a matter of a few minutes in England, the *reductio ad absurdum* is not so glaring, although the principle, of course, must be the same, whether the variation be great or small.

Even the convenience of the plan I never could see. True, it is convenient *now* for a traveller to know at Bristol what is the London time, because the railway bills are made out by London time; but I could never see *why they should be so*. Why should not the arrivals of the trains be marked in the bills in the *real, i.e.*, the *local* time? Why should everybody be forced either to have his watch *wrong*, or to make a sum whenever he wants to be at a station in time? I can see no reason, except that the present plan saves the persons who make out the railway time-tables and the guards the trouble (no great trouble either) of allowing for the difference between travelling east or west. The convenience of being able to regulate all clocks from Greenwich by electric telegraph has been insisted on; but to attain *that* it is not necessary to have false time; the true difference between Greenwich and any other place being known, the clocks can be regulated accordingly.

Nothing can be really convenient which is contrary to truth, to principle, and to common sense: and I feel satisfied that numerous practical *in*conveniences (not perhaps all yet discovered) must attend the working of this precious plan, to say nothing of it making us the laughing-stock of every scientific man in Europe. We pride ourselves in being a people who "know what's o'clock;" but the favour with which this project has been received makes it but too plain that we do not even understand *the meaning of the words*.

Instead of this agitation for (so-called) uniformity, I wish you, or any other sensible persons, would get up an agitation for truth and reason, and make at once the *quietus* of this proposed nuisance, which, for the ignorance, the wrongheadedness, the utter confusion of ideas that it betrays, is quite a disgrace to the nineteenth century.—I am, Sir, &c.,

Greenwich, Dec. 31, 1847. CHRONOS.

SANITARIAL STATE OF WARE, HERTS.

IN November last a committee of the parishioners was appointed to examine and report on the condition of Ware, and the best means of putting it in a proper state of cleanliness. After a most careful examination, the vicar, Mr. Blakesley, taking as in duty bound a most active part in it, they last week brought up a report on the first part of the inquiry, and will speedily follow it up with a second, containing recommendations. The result of the survey has been "to bring under their notice more than 450 tenements, the occupants of which are suffering from the operation of one or more influences, notorious for their effect in shortening life and generating or aggravating disease of an infectious character. Of these 450, no less than 329 labour under more than one of the evils referred to, and 38 of the number are affected by the whole of them. Reckoning the low average of only four persons for each tenement, there results no less than 1,800 human beings living obviously exposed to preventible causes of disease, which, if originating among them, may easily spread to the remaining part of the population;" and this in a town containing not quite 5,000 persons.

The causes of disease alluded to are—1. Defective surface-drainage. 2. Defective refuse-drainage, 3. Proximity to extraneous accumulations of decomposing substances. And 4. Insufficient accommodation for purposes of cleanliness.

It is to be hoped that the committee will proceed vigorously in effecting the removal of the evils. The necessity must be tolerably clear to every inhabitant after reading the following passage in the report:—

"An analysis of the burial register in the parish church has shewn that whereas during the ten years ending with 1837, the average duration of human life in Ware was $33\frac{4}{10}$ years: during the ten years ending with 1847 it has sunk to $31\frac{7}{10}$ years—being a diminution of more than five per cent. in the length of life, and this although one of the years in the former period (1831) was distinguished by an extraordinary mortality, no less than 134 persons (of whom 79 were under five years) having been buried in the churchyard, and the average age having been in that year brought down to $17\frac{3}{10}$ years."

NOTES IN THE PROVINCES.

The "Elder Brethren of the Trinity" are threatening to desecrate the Nelson column at Yarmouth, by lighting it up as a beacon,—warning all and sundry, we presume, and our trans-channel rivals in particular, that as they are right in alleging that Britannia no longer "rules the waves," *straight* across the Channel at least, we think it of no use longer keeping up a mere show of respect for those who once helped her to do so. The "Elder Brethren of the Trinity," however, were scarcely those who might have been expected to throw *such* a light upon the memory of other days;—but the proposal is one by which the immense sum of one hundred and fifty pounds may be saved, and "twa dougs killed wi' ae stane," as the Glasgow Bailie sagaciously remarked while proposing to make the "moniment o' Nelson" there "a mile stane too." This singular propensity to make monuments to Nelson subservient to some other or secondary purpose, and thus to stamp their original one with obloquy, as more or less unworthy of standing alone in the face of day (or night either, it now appears) is not confined to Yarmouth and Glasgow alone. At Edinburgh the Nelson column is sacred to the memory of "every thing in the confectionary line,"—and, indeed, it is a gimcrack concern itself, such as those of the inverted spy-glass order which we see even surmounting *rounded eminences* within the Taafy shop itself, of which it is at Edinburgh the well-known "sign." But we daresay there is no fear of the Charing-cross "moniment" being at least converted into "a mile stane too," by any thing like disrespectful inscriptions, for, doubtless, the restrictive order to "stick no bills," may, by a very fair stretch of signification, be held to comprehend either type or chisel within its sweep. We are not so sure, however, after all, that the Yarmouth proposal would be disrespectful, at least so much so as even the "Stick no bills" at Trafalgar-square has so long, by inference, been. It was proposed, even as a matter of respect to Caxton, that his monument should be lighted up, and certainly, considering the uses of lighthouses in guarding our mercantile Navy, and in warning all and sundry, and even the French, against too near an approach to its coasts, the mere lighting up of a monument to Nelson on these coasts, were the unworthy motive kept out of view, might even be made to assume the aspect of an opportune revival of that merited respect with which few of Nelson's monuments seem to have hitherto been treated. ——The church of Methwold, Norfolk, the spire of which is a noted land-mark for many miles, not by water exactly, but over the fen-district, has been restored interiorly in its wood-work, and deprived of its whitewash. An unsightly gallery has been removed, and the western arch, and windows of the steeple restored to view, and open seats for 500 provided.——In the restoration of the carved work in Lincoln Cathedral, the Dean and Chapter are voting annually between 2,000*l.* and 3,000*l.*——St. Neot's Church was to be re-opened on 12th inst., after six months' progress in restoration and repair.——The Rev. William Conway, Curate of St. Nicholas, Rochester, has commenced the erection of a church at his own expense. The estimated cost is about 6,000*l.*, and he intends endowing it with the sum of 50*l.* per annum,—another of those proofs of liberal feeling amongst the clergy which we have so often the pleasure to record, and which we doubt not will lead to still further emulation equally commendable, though probably not among the precise class to which this rev. gentleman nominally belongs, and who unfortunately seldom have the power to display what such an instance may be held to represent the great good-will of even that class of clergy to do, had they but the power.—— A stone font, in memory of the late rector of Darlaston, the Rev. S. Lowe, M.A., has been completed by Mr. P. Hollings, from a design by Mr. Hamilton, of Wolverhampton, architect, and erected in the church.——The Warwickshire Lunatic Asylum Committee have reported to the sessions their decision to erect an asylum for 300 patients, with power of extension, on land purchased of the Earl of Warwick, on a plan to be selected from others already obtained for consideration. At same sessions the County Prisons' Committee reported that Captain Chesterton, aided by Mr. D. R. Hill, architect, had surveyed the present buildings at Coventry and Warwick, and recommended, as the committee itself did, the erection of one new county prison near Warwick, on Mr. Hill's plan, for 350 prisoners, with power of extension. The report was ordered to be printed.——The Gloucester Lunatic Asylum is to be enlarged at the cost of 3,000*l.*——The arrangements for the disposal of the front portion of the Star Hotel, at Southampton, for the business of the Southampton County Court, have been completed, and Mr. Hack, the architect, is engaged in the design for the requisite alterations.

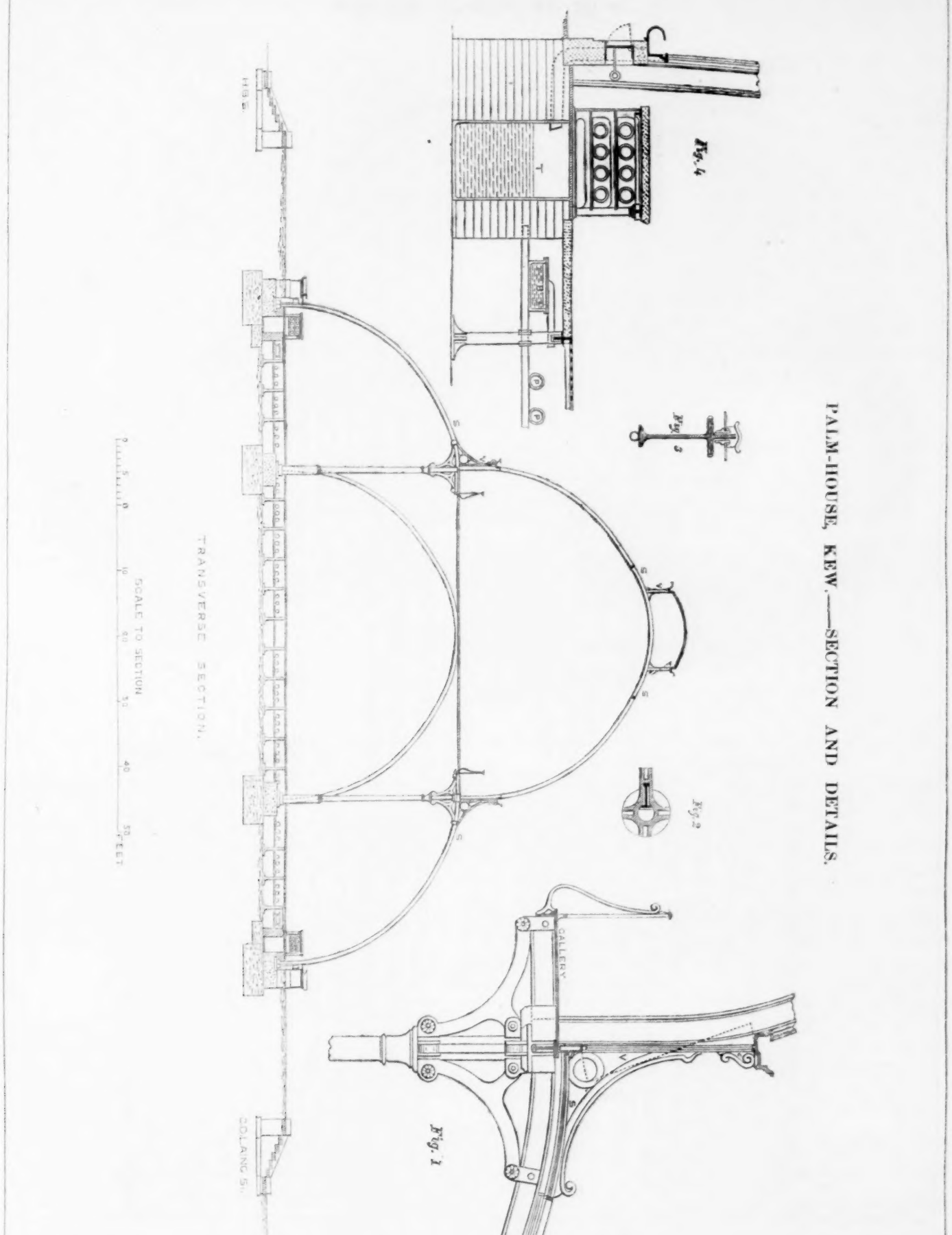
DOULTON'S EGG-SHAPED TUBES.—We mentioned Messrs. Doulton's reply to a letter which appeared in our columns on this subject, some time ago, but as they consider their denial was not put so prominently as the statement, we give place to the following:—

"Sir: In reference to the letter of Mr. Francis in a late number, we beg to observe that the registration obtained by us in October last was for egg-shaped sewers in *glazed stoneware;* that such sewers have not yet been made by any other parties than ourselves; and that if Mr. Francis, or any one else, infringes our right, we are quite prepared to defend it.—We are, Sir, &c.,

HENRY DOULTON AND CO.

Lambeth Pottery, December, 1847."

PALM-HOUSE, KEW.—SECTION AND DETAILS.



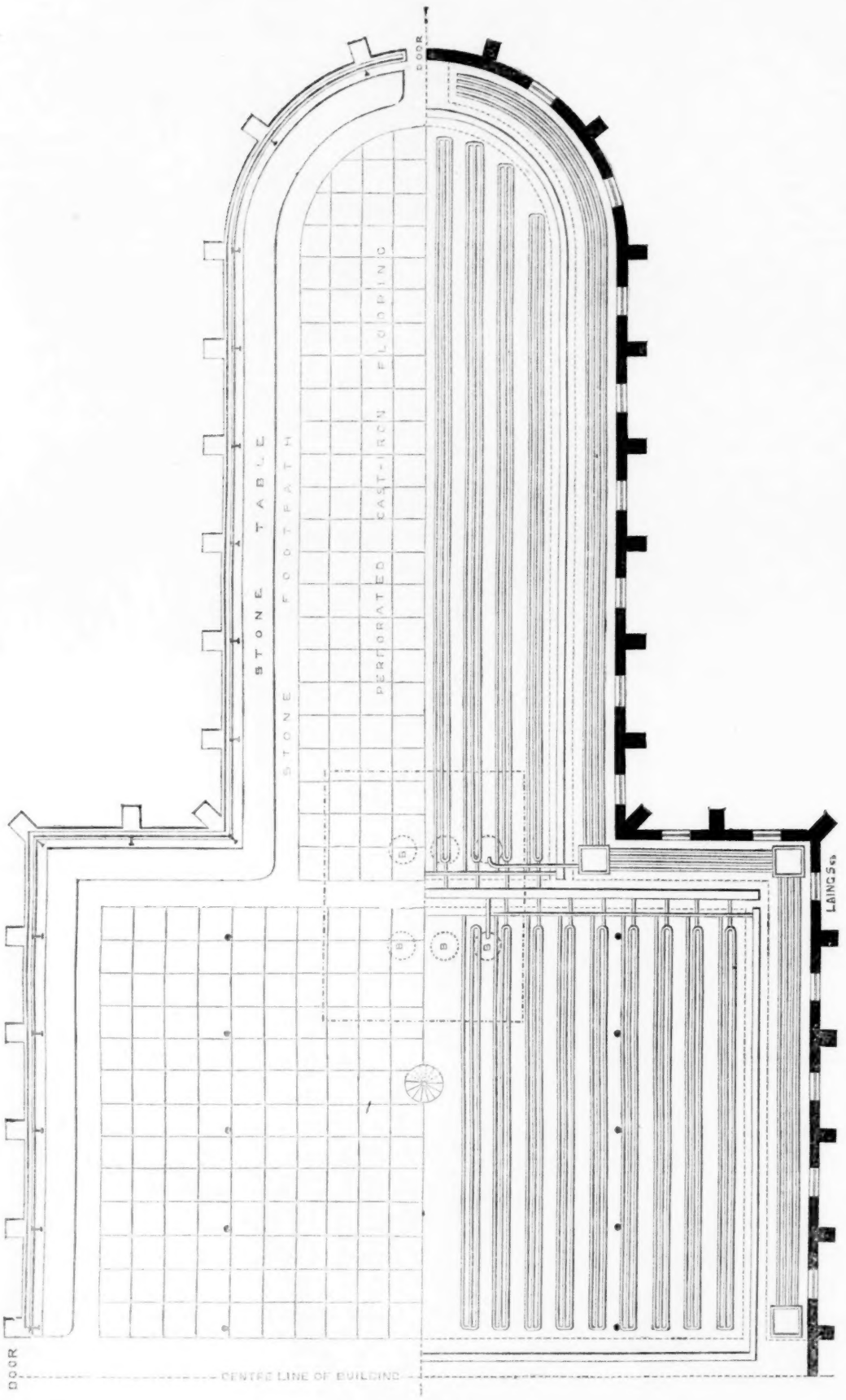
THE NEW PALM HOUSE, KEW GARDENS.

"So sits, enthroned in vegetable pride,
Imperial Kew, by Thames's glittering side:
Obedient sails from realms unfurrow'd bring
For her the unnamed progeny of spring."

THE new palm "stove" in Kew-gardens is so remarkable a work, that we feel satisfied our readers, all over the kingdom, will be obliged to us for placing before them full and complete illustrations of it, which we do to-day at considerable cost. It was commenced in the year 1845, by the direction of the Commissioners of her Majesty's Woods and Forests, from the design, and under the superintendence, of Mr. Decimus Burton, architect, and is a worthy example of that gentleman's skill. Before proceeding to describe it, a few words relative to the gardens, now devoted to the public, will not be out of place.

The eldest son of George II., father to George III., first connected Kew House with the royal family of England by becoming its tenant, and forming the pleasure-grounds. The improvements were continued by his widow, and Sir William Chambers was employed as architect, and afterwards published a work descriptive of the gardens and buildings. The orangery stove, temples, &c., put up by Chambers, still remain, and may be usefully studied. George III. bought Kew House,

PLAN OF PALM-HOUSE, KEW.



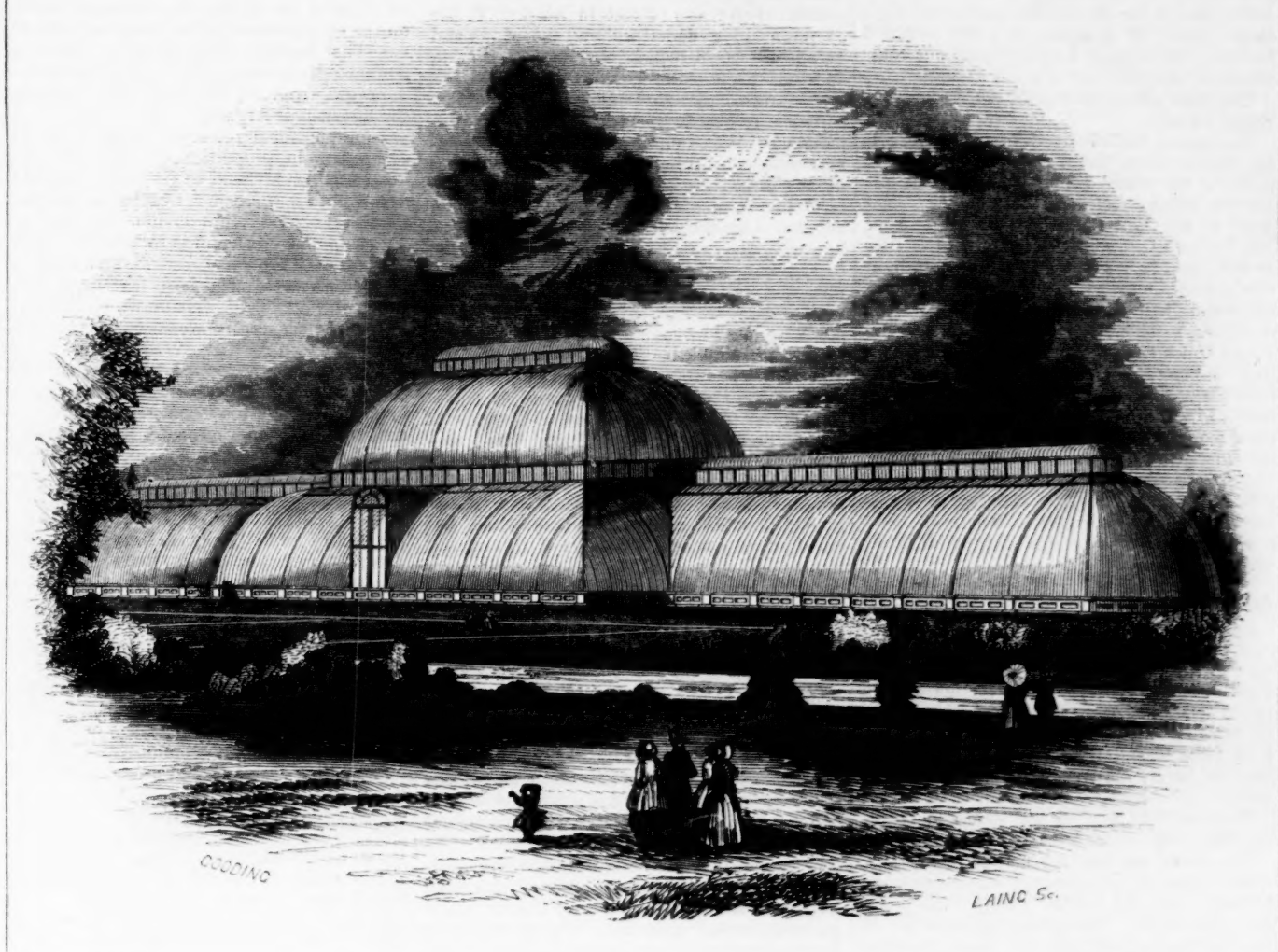
and made great improvements in the grounds. During the two following reigns little was done: the gardens seemed of little use, and the public called for inquiry. A committee was accordingly appointed to examine into their condition, and in 1840, a report by Dr. Lindley was the result.

In 1841, the present director, Sir William Hooker, entered upon his duties, and from that time to this, enlargements, alterations, and improvements have been going on, with the view of rendering the gardens useful to the public. One of his first steps was to open the Botanic Gardens and plant-houses to all decently attired persons, from one to six o'clock; and numbers, it is hardly necessary to say, avail themselves of the privilege, which it glads us to hear is very rarely, if ever, abused. Last year there were 70,000 visitors, all conducting themselves well, besides 22,000 who went over the pleasure grounds, which are open two days a week, from Midsummer to Michaelmas. Sir William has published a useful little guide for strangers, which, by the way, we should like to see sold at sixpence instead of a shilling, so that it might get into the hands of all who go there.*

In the beginning of the year 1846, we gave a view of the new piers and wrought-iron

* There is one suggestion in this "Guide" which may be usefully reprinted. The Museum will shortly constitute a highly important feature in the gardens. "Among the persons who may come to survey it, as well as the living plants, there will always be travellers or merchants who hold intercourse with various parts of the globe, and who would gladly contribute to this great national collection. Brief instructions, printed expressly for distribution, may be had of the director, or of the curator, Mr. John Smith."

NEW PALM-HOUSE, KEW.



gates then recently completed, under the direction of Mr. Burton, and we alluded to the new palm stove which we now illustrate.

The main ribs of this structure were originally intended to have been formed of cast-iron, but the great improvements subsequently made in the manufacture of wrought-iron (deckbeam) in large scantlings, led to the adoption of the latter material. The main ribs are formed of 9-inch deckbeam-iron of the section shewn in figure 2, obtained in lengths of about 12 feet: these are welded together to the length required, about 42 feet, and bent upon a template to the necessary curve. The ribs are 12 feet 6 inches apart, and foot into cast-iron sockets let into granite blocks upon a concrete foundation, as shewn in the accompanying engraving, which gives the transverse section taken through the centre of the building.

The total length of the house is 362 feet 6 inches in the clear; the centre portion being 137 feet 6 inches long, and 100 feet wide, by 63 feet high in the clear, exclusive of the lantern (6 feet): the wings are each 112 feet 6 inches long and 50 feet wide, and 27 feet high from floor to bottom of lantern. The upper ribs foot into strong cast-iron columns, which receive the upper part of the ribs of the lower roof, and the bearers for a gallery which is continued round the centre of the house. The column heads are connected by a continuous curb of similar scantling to the ribs (see figs. 1 and 2). The whole of the ribs are braced together, and strutted by wrought-iron tie-rods passing through cast-iron tubes, which act as purlins.* The columns are hollow, and conduct the rain-water from the cornice gutter of the upper roof into rain-water tanks, which are formed round the whole interior of the building beneath the stone tables (see T, fig. 4); the water from the lower roof is received into the torus gutter forming the upper part of the pedestal or plinth of the building, and passes from thence into the same tanks.

An iron spiral staircase leads to the gallery, where pipes will be laid, by which the tops of the trees may be watered, the supply being obtained from a reservoir in an ornamental tower at a short distance from the house, which also conceals the chimney-shaft.

Ventilation is amply provided for by rolling sashes on the roofs at S (see transverse section), vertical sashes V hung on centres at the level of the gallery, and in the lanterns. Fresh air may also be admitted through the panels in the stone pedestal of the building (see fig. 4); by simple machinery these ventilators, as well as the windows, will be opened and shut simultaneously.

The whole of the roofs are glazed with sheet glass 21 oz. to the foot, slightly tinged with green, the tint being given by oxide of copper. This has been done to counteract the injurious effects on the vegetation arising from the use of white sheet glass, an arrangement proposed by Mr. Hunt, of the Museum of Economic Geology, and practically carried out in this building for the first time.*

The floor of the house between the surrounding stone paths, is formed of perforated castings, about 4 feet square, supported on wrought-iron bearers and cast-iron uprights (see sections).

The house will be warmed by hot water; the apparatus is calculated to maintain an internal temperature of 80° when the external air is at 20° (Fahrenheit). To effect this, twelve boilers (Messrs. Burbidge and Healy's patent), and 28,000 superficial feet of heating surface in pipes, box tanks or troughs (see PPB, fig. 4) will be laid under the whole of the perforated iron flooring and stone footpaths, and stone table round the house.

Vapour is emitted when required by valves in the tanks, fig. 4.

The boilers, BB in plan, are in two vaults under the house, indicated by the strong dotted line.

The accompanying plan shews one-half the building only: the arrangements throughout the other half are similar.

The vaults communicate with the chimney-tower and coal-yard by a subterranean passage 550 feet in length, containing the smoke flues, and a railway, with iron waggons, to convey fuel and take back the ashes.

Distinct sets of heating pipes are supplied by each boiler, so that according to the number of boilers in use, a higher or lower temperature may be obtained in any particular portion of the house, which may thus be variously climatized at pleasure.

The building and heating apparatus have been constructed by Mr. Richard Turner, of Dublin, and the stonework and foundation by Messrs. Grissell and Peto.*

The total cost of the structure will be about 30,000*l.*, exclusive of the shaft, tunnel, &c.

SHORE UP CUTTINGS.—Last week a workman, named James Hall, was killed by the earth falling in upon him in Bishopsgate-street, during the construction of a sewer. The builder had ordered the men to shore up the ground, but they in their wisdom thought it was solid enough.

* These purlins, or connecting bars between the ribs, are novel: they are formed of a small (1¼th inch) round bar, welded in long lengths, and passing through the ribs, they form a continuous tension-rod all round the house at each purlin (which are 9 or 10 feet apart), with means of straining them as tight as possible. This tension-bar is covered or inclosed in a tubular bar of wrought iron, exactly fitted between the ribs, acting as distance-pieces in opposition to the strain of the tension-bars. This knits the entire structure together.

* A paper on this matter was read by Mr. Hunt before the British Association last year, and is mentioned in THE BUILDER, vol. v., p. 331. Mr. Hunt will further elucidate his views at the Society of Arts on the 16th of next month.

* Great praise is due to Mr. Turner, for the manner in which the work is done. A correspondent on his part remarks—"As nearly all the work of this building has been executed by Irishmen, who are grateful for the employment it has afforded them, I hope you will consider it a proof that the mechanics of that country are disposed to earn their bread in honesty and peace, and are capable of executing works of that kind to the satisfaction of the professional gentlemen of this country."

IMPROVEMENT OF GAOLS.

SPRINGFIELD GAOL—KNUTSFORD HOUSE OF CORRECTION.

THE *Chelmsford Chronicle* lately gave an account of the remodelling of the county jail on the plan of the Pentonville prison and Middlesex house of detention, at a cost of about 36,000*l.*, the original building being one completed in 1828 at a cost of about 57,300*l.*

The main alteration is in the central hall and grand corridor.

The central hall affords the means of inspecting the corridors, having in sight the door of most of the cells. Stretching out from this are two lengthy corridors, one trending somewhat to the right hand and the other to the left, and on either side of these are three tiers of cells, the two upper rows opening upon light iron galleries attached to the walls, and communicating with each other by means of iron staircases, so that though secure the whole has a light appearance. The hall is lighted by a large window in the centre, and the corridors from the roofs. Around the hall are galleries, reached by a circular stair, and on a level with those along the corridors communicating with the different rows of cells, and opening a ready way to the chapel. Each prisoner is to be provided with a gas-light and the means of employment as a shoemaker, tailor, &c., with a ready means of communicating at all times with the officers.

The rations, from the kitchen below, are raised by machinery through the kitchen ceiling and floor of the central hall, stopping at each gallery, where the trays will be run along on a sort of wagon and served up, in an incredibly short space of time, all hot and in prime condition, to the envy it is to be feared of surrounding shoemakers and tailors, who, it is to be hoped may not be thus induced to long to be on the wrong side of the prison walls.

There are 119 cells in one wing and 120 in the other, with 42 for females.

The chapel has been rebuilt and remodelled, a new house for the governor erected near the gateway, and the debtors' small department also remodelled. The exercising yards are on the radiating system, with the usual provision for influencing the conduct of the prisoners by occasional and unseen supervision. There is an improved laundry with drying rooms, and scientific appliances for the economizing of manual labour; and the movements of the kitchen department are conducted by steam.

The ventilation and heating of the whole have been specially provided for. The apparatus for heating consists of a boiler or case in the centre of the basement story of each wing, with pipes for the circulation of hot water. The fresh air introduced through a large flue open to the external atmosphere, after passing over the surface of the boiler, turns right and left along a main flue which runs horizontally under the floor of the corridor, and from thence passes upwards through small flues in the corridor wall, which terminate respectively in a grating placed close under the arched ceiling of each cell.

To extract the foul air, a grating is placed close to the floor of each on the side next the outer wall, and diagonally opposite the point where the fresh air is introduced. This grating covers a flue in the outer wall opening at the upper extremity into a horizontal foul air flue in the roof, communicating with a vertical shaft rising 20 or 25 feet above the ridge. In some of the cells, a regulator enables the prisoner to admit warm air from the main flue, or cool air from the corridor, at pleasure.

In a subsequent number the *Chronicle* gave a sketch of the chapel, which, as already said, has also been remodelled on the radiating system, with the pulpit in the centre; and an engraving of the interior of a cell, which displays the precise arrangement at Pentonville already shewn by an engraving in THE BUILDER.

Knutsford House of Correction, near Manchester, has been enlarged and altered, under the direction of Messrs. Dickson and Brakspear, architects. It previously consisted of a small chapel and governor's house, forming a central building, and five blocks of buildings radiating from it, but detached from it, and wholly separate from each other.

On the site of what was an open yard, beween the chapel and the wings, an inspection corridor has been formed, which is pentagonal in form, being in fact five sides of an octagon, the chapel occupying the open space near the ends of the pentagon. The corridor is 12 feet wide, except in the centre, where it is of much greater width; and 12 feet in height. It has communication doors with all the wings and exercising yards, which now radiate from it, and thus gives more comfort to the officers. According to the *Manchester Guardian*, this corridor possesses remarkable acoustic properties. "We cannot make these fully apparent without diagrams; but let the reader cut off any three sides of an octagon, and he will have the form of the corridor; then let him suppose a building or wing upwards of 100 feet long, diverging at right angles from one end of this corridor, and he will have some idea of the remarkable transmission of sound when we state that in the night a person speaking in a low voice at the farthest end of this wing, could be distinctly heard at the opposite extremity of the corridor, and even the slightest scratching or any other noise was transmitted round five angles, a distance of from 200 to 300 feet, and heard most distinctly at that distance. Doubtless, the arched ceiling of the wing, and the form of the corridor, are both extremely favourable to the transmission of sounds; but we need not dwell on the obvious advantage of this quality in a prison, where it is of the utmost importance that every aid should be given, in construction, to the strictest and most careful surveillance of the prisoners, night and day. An officer on duty in the night, in this corridor, can thus at once hear the single stroke on a small bell in the wing of the prison, which any prisoner taken ill, or desirous to communicate with the officer, can produce at will, while locked up in his cell." The principal alteration effected, however, is in one of the radiating wings. These are 100 feet in length, and have three distinct stories, with central corridors and ranges of cells on each side. But in the one referred to, these floors and walls have been swept away, leaving the cells alone, to which access is given by narrow side galleries, as at Pentonville. The cells are also fitted up in the same manner.

The ventilation of the cell is effected by admitting fresh air from the corridor (which may be regarded as a large air chamber) by means of a grating over the door, at a height of 10 feet from the floor; the vitiated air being carried off by a grating a few inches above the floor, into a flue or trough; and all these flues pass into one great chimney shaft in the centre of the building. A furnace is provided, which it may be necessary to use occasionally in order to commence the draught.

MANUFACTURE OF ARTIFICIAL STONE.

INSTITUTION OF CIVIL ENGINEERS.

THE first meeting of the session was held on Tuesday evening last, when a paper was read, descriptive of Mr. Frederick Ransome's process for making artificial stone. The *modus operandi* appeared to be very simple:—broken pieces of silica (common flint) being subjected for a time to the action of caustic alkali, boiling under pressure in a close vessel, formed a transparent silicated solution, which was evaporated to a specific gravity of 1,600 (distilled water being 1,000), and was then intimately mixed with given proportions of well-washed sand, broken granite, or other materials, of different degrees of hardness. The paste thus constituted, after being pressed into moulds from which the most delicate impressions were readily received, was subjected to a red heat, in a stove or kiln, by which operation the free or uncombined silica of the raw materials united with the excess of alkali existing in the solution, thus forming a semi-vitreous compound, and rendering the artificial stone perfectly insoluble. This production is said to be adaptable to a comprehensive range of objects, for decorative art and for architectural purposes: busts, vases, flooring-tiles, steps, balustrades, mouldings, capitals, shafts and bases of columns, &c. &c. Even grinding-stones and whetstones for scythes have been made. It was stated to be already extensively manufactured at Ipswich, and was thought to admit of extensive application where elaborately carved stone would be too expensive.

PROGRESS OF GAS MOVEMENT.

THE City Sewers Commissioners have had a long discussion on the means of accomplishing an immediate reduction in the price of gas for lighting the streets, &c., and have resolved on the adoption of efficient measures forthwith. ——The Imperial Gas Company have announced their intention to reduce the price of their gas from 7*s.* 6d. to 6*s.* per 1,000 feet; the fifteen-hole Argand burner to be 2*l.* 11*s.* 6d. per annum for light from sunset to 9 P.M., and others in proportion. Consumers would no doubt feel inclined to give the Imperial all due credit for such an act of partial justice to themselves, were it not obvious that one main object of the reduction is to paralize the new Western in its incipient state. The announcement appears to have been first made on the very morning of the day on which the Marylebone parish vestry were to decide on the terms on which the Western were to be allowed to pervade that parish with their pipes. There also appears to be a warm struggle of interests and motives in the Marylebone vestry itself, and in its Gas Committee which had thrice reported on the terms proposed, and now their report has been a third time sent back to them! During the long and somewhat personal discussion on it, Mr. George Daniell said, that "if the vestry were really desirous of putting down the gas monopoly, they would vote for the resolution in the report, forfeiting the pipes of the Western Company, in case of amalgamation with any other company. If they did not do so, the mere penalty of 15,000*l.* would be laughed at, and, as in the case of the water companies, the vestry set at defiance." The retrogradation of the report was voted, admittedly, or at least obviously, in order to bias the thrice-determined committee in favour of monopoly, on the very ground, adduced, that "the application of the Western Company, *considering the present position of the vestry with the Imperial* was inopportune." So that the object of the Imperial, in *their* very *opportune* reduction, is but too manifest.——The Chartered Gas Company, and some on the Surrey side, are also about to reduce the price to 6*s.*——A lecture on the gas movement, and against the alleged gas tax, was lately delivered at Manchester by a Mr. T. Remirol. The *Manchester Examiner* and other papers support us in our already-expressed opinions on the latter subject. The formation of an Anti-Gas-Tax League has been proposed at Manchester,—rather prematurely we hope.—— Under the head of "Evils of Monopoly," the *Bradford Observer* states that an ingenious mechanic, Mr. Marmaduke Lupton, at Harrogate, "*makes his own gas at a cost of* 1*s. per* 1,000 *feet*," while "the Harrogate Gas Company very modestly demand 8*s.* 4d.!" "Consequently," as the *Observer* rightly adds, "they find but few customers at that exorbitant charge," the Improvement Commissioners even refusing to have the streets lighted on unreasonable terms. Surely they need not be long at the mercy of such a company. ——Good gas shall be within the reach of all before long: THE BUILDER has said it, and will see it done.

THE NIGHTMAN-FALLACY, OR FALLACIA CLOACINÆ.

JUMPING TO CONCLUSIONS.

SIR,—Mr. I'Anson has, I hope, done good service in attracting attention to the fact that the nightmen of London were exempt from the attacks of the cholera in 1832: I may add, that a similar fact was observed in Paris; the Prefect of Police reported to the Chambers that not one of the nightmen of Paris, who were employed in removing the contents of the cesspools to Montfauçon, was attacked with cholera.

Those who consider that such facts prove that the effluvium from nightsoil is harmless may be perfectly honest,—they are merely bad logicians: they jump too hastily to their conclusions. Without speaking too positively, I believe that it will be found that the disturbance of nightsoil occasions the disengagement of a quantity of ammonia; so that, as ammonia is an antidote against depressing infection, the nightmen are enveloped in a protective gas. To argue, as some do, and as others would seem to wish that their hearers or readers should do—that because nightmen are

free from cholera therefore foul drains are harmless, is, when examined, so transparently absurd, that Mr. I'Anson may well be thanked for stirring the nonsense, instead of leaving it in the cesspools of some skulls to work its mischief unobserved.

Mail-coach guards are a bright-complexioned, cheery-looking set of men: *argal*, no one can be hurt by being exposed, during any night in the winter, to frost, snow, hail, or rain!

Brighton bathing-machine men stand for hours in the day either in the water or in wet clothes: *argal*, it is absurd for the nursery-maids and children to keep dry on the chain pier!

The five-and-twenty members of the Pig and Whistle Club sit every night in the back parlour, smoking their pipes very comfortably: *argal*, tobacco-smoke and spittoons would not make ladies sick in a drawing-room in Belgravia!

Ballast-heavers on the Thames keep up their strength for some years on four gallons of bad porter and a quart of gin a day: *argal*, that is the proper tipple for the young ladies at the boarding-schools at Brompton!

Some asthmatic persons breathe most comfortably in a smoky room: *argal*, Dr. Reid ought to make all the flues of the parliamentary chimneys discharge their smoke into the Houses of Lords and Commons!

Here are a few samples of the Nightman-Fallacy, or the Fallacia Cloacinæ (not) of Aldrich or Whately.

What do the maintainers of that fallacy say to M. Poitevin's manure manufactory near the London Hospital?

"Dead dog smells like musk," but only "when at a distance."—I am, Sir, &c.

January 8. N. R.

TOWER BUILDINGS, LIVERPOOL, AND THE "COMPANION TO THE ALMANAC."

SIR,—Permit me, through the medium of your valuable columns, to offer a word of explanation in reference to a critique which appears in the "Companion to the Almanac for 1848." The author of the article on "Public Improvements" has honoured with his notice two works of mine in Liverpool during the past year, the Crescent Schools and the Tower Buildings. Of the general tone of the criticisms I have no cause of complaint; but in reference to the latter erection there are a few observations which, without explanation, would exhibit both myself and the building in question in rather an *eccentric* point of view. The writer proceeds as follows:—"One compartment of the main elevation is attached to the tower, in a more singular than accountable manner, as it makes a break and juts out forward, so as not only to abridge, but also destroy the regularity of composition that might else have been maintained, because, what is exclusive of the tower would then have shewn seven windows on a floor, while the entrance-door beneath the centre window would have been in accordance with the rules of architectural composition; whereas, now there is no central feature at all, the entrance—and it is markedly distinguished from the other openings on the ground-floor—coming beneath the second window from the part which is made to project forward, so that it has only one window on that side of it, and four on the other, whereas it ought to have been in the centre, and to have had three on each side of it," &c. I am here represented as having, without any assignable cause, distorted the façade of the building, by placing the entrance out of the centre, and making a projection or break in the compartment attached to the tower. "in a manner more singular than accountable." Now, I am no more in love with distortion or eccentricity than my friendly critic can be, and would very much have preferred the suppression of both these objectionable features. The explanation of them, however, is exceedingly simple. Tower Buildings are erected on an ancient site irregular in plan, one part of the irregularity consisting of the projecting break alluded to. I was required to cover the whole area as it previously existed, the proprietor not being willing to lose any of the space, which is extremely valuable. The projection, therefore, however singular it may appear, is no longer unaccountable. The situation of the entrance-door is dictated by the necessities of the locality, and could not, with due regard to the uses of the building, have been placed elsewhere. Whether, labouring under these necessities, the features alluded to could have been better treated than they are, is matter of fair criticism; but let me not be held up as so enamoured of the *bizarre* and *outré*, as wilfully and designedly to disregard all attention to symmetry. One glance at the ground plan, or five minutes' inspection of the "*locus in quo*," would have satisfactorily shewn what I have stated above.

It is cause for regret that the author of the architectural criticisms in the "Companion to the Almanac" has not, in all cases, the opportunity of actual inspection of the works commented on; since, able as he is, misapprehensions and erroneous impressions are otherwise almost certain in many cases to occur.—I am, Sir, &c., J. A. PICTON.

Liverpool, Jan. 3, 1848.

PUBLIC COMPETITIONS.

SIR,—Much as has been said both in your own journal and elsewhere on the subject of competition, it is one that cannot be brought forward too frequently, or insisted upon too strenuously. Reforms of corrupt systems are not to be carried by a *coup-de-main*, but must be brought about by a perseveringly maintained attack and exposure of abuses, without which a mere occasional outcry is mere child's play. Notwithstanding the malpractices complained of by individuals, from time to time, either the majority of the profession must find their account in the present system of competition, or else those who keep aloof from competition are quite indifferent to the various hardships and injustice to which, as now managed, it exposes those who enter into it. Some, indeed, decry competition altogether, and seem disposed to do away with it entirely; which would be very much to be regretted, because,—to quote what has just been said by a contemporary of yours, in speaking of the Army and Navy Club-house competition,—"it prevents the monopoly of employment by a favoured few, neutralizes the prestige of names, and opens the door to talent, which might ever else remain in obscurity. The excellence of the principle is quite distinct from the abuses which are suffered to interfere with it in practice."

There is every reason to believe that, had it not been for a public competition, the Houses of Parliament would not have proved so worthy a structure by many degrees as it now is, or eventually will be; it being more likely than not that the work would have been confided to some one else than Mr. Barry. Had there been, in like manner, a competition for the British Museum and the alterations at Buckingham Palace, the probability is that we should in both instances have had something far more satisfactory than what we have now got.

At no very great distance of time, perhaps, a noble opportunity for the exercise of their talents will be afforded to the profession, since it may be presumed that the anticipated new National Gallery will be made the subject of a public competition. Should such prove the case, it is to be hoped that it will be better managed than any thing of the kind has hitherto been. The most ample time should, in the first place, be allowed for the preparation of designs; whereas in general no time at all is afforded for properly studying the subject proposed, sometimes barely enough for getting up a set of drawings, so that the very first idea which presents itself must be abided by, and the finished drawings amount to no more than a finished sketch. In the next place, there ought to be a public exhibition beforehand of all the designs, and not such a brief one as to be little better than a nominal exhibition, but kept open for several months, so as to allow time for repeated and leisurely examination. This would be one very great step towards an improved system of competition, and would of itself go far towards remedying much that is now justly complained of. Leaving to THE BUILDER to enlarge upon the subject,

I am, Sir, &c., PHILO-AGONOS.

HISTORY AND ARRANGEMENT OF LIGHTHOUSES.

AT the Society of Arts, on the 15th ult., a paper by Mr. A. G. Findlay was read, "On the various descriptions of lighthouses, beacons, and light vessels, and the methods and materials used in their construction from the period of their introduction to the present time; also on the systems of illuminations used in lighthouses, and the improvements which have recently taken place."

Mr. Findlay commenced his paper by alluding to the vast importance to a maritime nation like England of having a durable and efficient mode of constructing and illuminating lighthouses, light vessels, &c., and proceeded to point out the general uses of lighthouses. The oldest structure upon record is the celebrated Pharos, of Alexandria; this served as a guide to ancient mariners during a period of nearly 1,600 years. Pliny says, "it was square, of white stone, and consisting of many stories, and diminished upwards, till it attained the height of 547 feet." The most ancient structure known to exist in this country is the Roman Pharos, at Dover Castle, and this would still answer its intended purpose, after a lapse of eighteen centuries. The celebrated Cordovan Tower, in the Bay of Biscay, is another instance of stability, having been built in 1611. The Eddystone Lighthouse has attracted more of the attention of the public than perhaps any other; the first of the edifices was of wood, and built by Mr. Winstanley, in the years 1696-8, but owing to the sea washing over the lantern, it was soon raised to 120 feet in height. In November, 1703, the whole structure was washed away; in 1706 sanction was obtained for its being rebuilt, which was accordingly done by Rudyerd; and in 1755 it was destroyed by fire. The present tower, one of the artificial wonders of England, built by Smeaton, is 100 feet high, and has given good proof of its capability of resisting the force of the waves.

The Bell Rock Lighthouse is a similar structure to the Eddystone; it was built by Stevenson, and cost 60,000*l*. The most recent erection of this description is on the Skerryvore Rock, and cost 90,700*l*. in its erection.

The author next alluded to the difficulty of constructing permanent lighthouses in exposed situations, and the advantages of them over floating lights, as well as the much smaller annual expenditure required, in order to maintain an efficient light. The first floating light was the well-known Nore-light vessel, moored in 1734. In order to ensure stability in a lighthouse, he stated that it is necessary that the structure should be capable of affording resistance to a pressure of not less than 6,000 lbs. to each square foot of surface exposed to the action of waves: this assertion was founded on experiments by Mr. Alan Stevenson, who ascertained and registered the force of the waves at the Skerryvore Rock on the 25th March, 1845, during a westerly gale, when it was found to be 6,083 lbs. per square foot; this, the greatest force hitherto registered, was cited, with many others. He next proceeded to point out the inapplicability of iron to the construction of lighthouses, where the metal would be immersed in the sea-water, which has the effect of reducing it to a body similar in its chemical properties to black-lead, and instanced the effects produced on a cannon ball taken from the *Mary Rose*, after having been sunk off Spithead for a period of 150 years; the iron shot, upon being exposed to the air, gradually became red hot, and then fell into a red powder resembling burnt clay. The author then described the methods which have been suggested for overcoming the difficulty of exposing large surfaces to the action of the force of the waves, and also of obtaining a firmer foundation on a sand, and especially Mr. Alexander Mitchell's screw-pile lighthouse, erected on the Maplin Sand, and Dr. Potts' method of driving piles by atmospheric pressure, as applied at the South Callipier Beacon on the Goodwin Sands, in 1847, and of other beacons on various shoals at the mouth of the Thames, as on the Blyth Sand and on the shingles in the Prince's Channel. Another plan for the erection of lighthouses has been carried into effect at the point of Ayr, by Mr. Walker: it consists of constructing hollow cylinders, which are filled with concrete and

then sunk, and from them the piles rise. Captain Sir S. Brown has also proposed a plan for the erection of lighthouses in deep water upon bronze standards, and a modification of his plan was adopted by Captain Bullock. He further alluded to Mr. Bush's light of all nations; Mr. Gordon's iron lighthouses at Jamaica and the Bermudas, in which the cases are filled with a solid mass of concrete; and to the fact that Mr. Rennie had proposed iron for this purpose, as early as the year 1805, for the Bell Rock.

Having thus shown the different methods employed in the construction and erection of lighthouses, he proceeded to remark on the various plans of illumination which have been employed; of these the earliest was the coal fire and the cordonan billets of oak. In 1752, the South Foreland Lighthouse, previously with an open coal fire, was covered with a lantern with large sash windows, and the coal fire was kept bright by means of large bellows: the lantern was afterwards removed; and subsequently, at the commencement of the present century, 15 large lenses with separate lamps were placed in it. In 1790, the only exception to the coal fire was the Eddystone Lighthouse, which had a chandelier with 24 wax candles; and the Liverpool lighthouses, with oil lamps and rude parobolic reflectors. An interesting historical fact was then mentioned, viz., that parobolic reflectors were used at the Liverpool lighthouses (built in 1763), as Mr. W. Hutchinson, in his "Practical Seamanship," published that year, describes the apparatus then in use; the larger reflectors of wood, lined with small pieces of looking-glass, the small of polished tin; this was the more curious, as it had been claimed by the French for M. Teulere in 1783, and first used in Scotland in 1786. The parabolic reflectors, of which some specimens were shewn to the meeting, are now constructed upon the formula of the celebrated Captain Huddart. Having explained the catophic, or reflecting principle of illumination, which received so great an improvement in the invention of the Argand lamp in 1780 or 85, several other lights were exhibited and described, viz., the Drummond light, the voltaic light, and the causes of their inapplicability. The present mode of illumination is from lamps constructed on a modification of the Argand principle; a first order pneumatic lamp, with four concentric wicks, shewing a most powerful light, was exhibited. The dioptric principle in which the rays of light emanate from a central lamp, and are controlled and directed by a series of lenses placed before and around it, next occupied attention. The author claimed the priority of its suggestion for an optician in London, as mentioned by Smeaton, who proposed, in 1759, to grind the panes of the Eddystone lighthouse into a sphere of 15 feet diameter. The present form of lens, generally known as Fresnil's, was first suggested by the celebrated Buffon, in his experiments on burning apparatus, to which it is probable the catoptric system owes its origin.

RAILWAY JOTTINGS.

THE length of new railway opened during 1847 is 750 miles; 516 in England, 127 in Scotland, and 108 in Ireland. About 150 miles are also now nearly ready for traffic. The companies on these have called up about 22,330,000*l.* during 1847.——The traffic on railways in the United Kingdom, during the year 1847, amounts to about 8,950,000*l.*—being an increase over that of the preceding year of 1,285,000*l.*, or nearly 17 per cent. The aggregate length of line over which the traffic was conveyed in the first month of 1847, was about 2,710 miles; and, in the last, about 3,420 miles. Taking the average length of railway for the year at 3,100 miles, it would give 2,887*l.* as the average traffic per mile per annum.——The amount called up, during the present month, amounts to 4,677,075*l.*, the proportion on foreign lines being 211,590*l.*—being 1,500,000*l.* below that of January last, and less than might, from recent signs, have been anticipated: it is still, however, 1,360,500*l.* above the monthly average of 1847.——A late number of the *Gazette* contains notices of the dissolution of some twenty railway companies.——The principle to be adopted in assessing railways for the poor-rate, in the several parishes or unions through which they pass, was to have been decided in the case of "the Eastern Counties Railway *v.* the South Weald Poor-rate;" but the case, which affects fifty to sixty parishes in one county alone, has been postponed till next session. The Eastern Company declare, that in several cases they are called upon to pay poor-rate at the rate of 600*l.* to 700*l.* a mile. They have issued about thirty notices of appeal under present circumstances.——By the simple process of a shew of tickets on the eve of transit, the North Western, at the Euston station, and from six trains merely, ferreted out about sixty pounds' worth of living profit, in the place of so much dead loss, as they reasonably conceive it would have been without such a check. The only wonder is that so obvious a way to clear such a *profit* is only now for the first time thought of: 60*l.*, if we recollect right, is the profit which the same company now reap by newsvending for a whole year.——The North-Western are pushing on the principal works on their main line between Skipton and Clapham without any call before March next. They propose to complete and open successive portions of the line, as far as Ingleton, by the summer of next year, and to Kirkby Lonsdale by the following autumn. The works already under contract will be completed, it is estimated, at an average of 16,000*l.* per mile. The average number of shares held by each shareholder does not exceed thirty.

METROPOLITAN COMMISSION OF SEWERS.

A MEETING of the Metropolitan Commission of Sewers was held on Thursday, at No. 8 committee-room, House of Commons. The Right Hon. Lord Morpeth in the chair. A large body of commissioners were present. We have a full report of the proceedings in type, but from pressure on our space we must defer it till next week. The following is, however, an abstract of the principal subjects brought under consideration.

A letter was handed in from the architect to the Westminster Improvement Commissioners, in reference to the proposed systems of drainage of the new Victoria-street, in which it appeared a difference existed in the plans of the two surveyors, Messrs. Austin and Phillips, who were ordered specially to report thereon.

A supplementary report was presented from the surveyors, Messrs. Roe and Phillips, on the flushing and cleansing of sewers, cesspools, &c., which stated that since their former report 22,400 feet of sewers, in which deposit varied from 6 inches to 3 feet 6 inches, had been thoroughly cleansed, and 3,386 double loads of soil had been washed away at an expense of 500*l.*, which process under the old system would have cost 1,500*l.*; and that in one instance a large cesspool, containing equal to twenty-four loads, had been relieved entirely in 3¾ hours. It also pointed out that further experiments were being made for sanitary purposes. Adopted.

A report was also presented from Sir H. de la Beche and Mr. Chadwick, on the proposed ordnance survey of the metropolis, and Lord Morpeth intimated that the Government were quite ready to afford all the assistance in their power towards the preparation of a proper plan, by furnishing the amount necessary for the purpose, and to obtain the repayment of the sum by a vote in Parliament, the commission *finding lodging* for the surveyors.

Correspondence.

BAD BRICKWORK THE RESULT OF EMPLOYING ORNAMENTAL CEMENTS.

SIR,—The late accident at the Euston-square Station induces me to trouble you with a few remarks on what has always appeared to me the injudicious employment of cements for ornamental purposes in architecture. It is not my intention to allude at all to the cause of the failure in question, but merely to point it out as an instance where, if genuine building materials had been employed, this lamentable sacrifice of live and property would not have occurred.

I maintain, that to the use of cement as a decorative feature must be attributed the defective and unworkmanlike brickwork of the present age, and that it is entirely in the power of architects to check this growing evil.

I look upon every cement-fronted building as a trick and a cheat most unworthy the practice of an architect. It is, in fact, a downright forgery and a lie!

Let every member of our noble profession resolve (as I am happy to say several have already done), on no pretext whatever to degrade themselves by the use of cements or patent stuccoes, and it may be relied upon that not only will our buildings be more soundly constructed, but our architecture will also be improved; for being no longer able to captivate the public gaze with cheap and meretricious ornaments stuck on to a bad design in plaster, deeper consideration and study will be devoted to the much more important feature—a well-proportioned design, which will always please, whereas nothing can compensate for the want of it. RAPHAEL BRANDON.

11, Beaufort-buildings, Strand,
10th Jan., 1848.

*** We have no reason to believe that the brickwork was badly done in the case alluded to. That the practice has tended to lessen the skill of our operatives we have already shewn.

PREVENTION OF ROT.

SIR,—Will you, through the medium of your useful journal, ask your scientific readers to inform me the best method to remedy a house that has the dry-rot? It is built on a wet, marshy piece of land, and the walls appear to suck the moisture up into them, or rather, the damp rises, so that no paper can be kept on, not even with battening and canvassing. The above was built in the year 1838, and has been once refloored, and now wants the same again, with the addition of new floor joists, which are now laid upon brick piers; and the stud partitions in the lower part are rotten 3 feet up. By doing so, you will confer a great benefit on me, as well as others in the same locality, and greatly oblige, Sir, yours, &c., T. G.

MECHANICS' HOUSES ON EASTERN COUNTIES RAILWAY.

SIR,—In one of your BUILDERS for May or June, I saw a remark that the Eastern Counties Railway Company had erected at the Barking-road station some model-houses for mechanics, consisting of parlour, kitchen, washhouse, and three chambers, with a garden to each. Will some of your numerous readers give, through your valuable publication, the dimensions of the different rooms, and probable cost, for the information of

A STAFFORDSHIRE POTTER AND CONSTANT READER.

Miscellanea.

AN AWFUL FACT.—A correspondent of the *Times* states that in the burial-ground of St. Pancras old Church on Sunday, Dec. 12, "between 30 and 40 bodies (full 40, including stillborns, which are not registered) were piled in one common grave, amidst the murmurs of the relatives and friends of the deceased. One funeral service was said over the lot, and one replacing of earth covered the whole. The covering of earth in this ground is frequently very shallow, often only two or three feet deep; and I have heard of a mourner having recently, in his indignation, pulled out his rule and proved to the bystanders that from the surface of the top coffin to the level of the ground was *less than one foot*." To boast of attention to the public health while such wholesale arrangements for the dissemination of disease and death are permitted is farcical. The state of this ground was long ago noticed in our columns.

BLIND BUILDERS.—Mr. Editor: You will oblige me by inserting the following tenders for the carpenters', joiners', and ironmongers' work required for the erection of eight fourth-rate houses, advertised in your number of the 18th of December last. AN EYE-WITNESS.

Higgs	£967	0
Bramston	960	0
Matthews	856	0
Cubitt	820	0
Richards	800	0
King	740	0
Graham	732	0
Wamleighton	717	10
Symonds	711	17
Raycroft	620	0
Ashton	550	0
Search	471	0
Charles Graham	452	5 (!)

COMPETITION.—Plans, &c., are wanted for the erection of a workhouse for the Fulham Poor-law Union, capable of accommodating 450 inmates; the architect whose plan shall be approved of to be employed on the usual per centage, or to receive 50 guineas,—second and third in merit 30 and 20 guineas respectively, when plan selected.

BUCKINGHAM PALACE.—Mr. Blore, it seems, is now accused of having pirated the design of the new façade to Buckingham Palace. According to Mr. Sharp, an architect at York—who has addressed a letter on the subject to the *Civil Engineer and Architect's Journal*—it is merely "a reduced copy" of the Palace at Caserta, erected about the middle of the last century by Vanvitelli. "The faults or merits, be they which they may," he says, "are not Mr. Blore's, but Vanvitelli's." The *Athenæum* remarks on this,—"Considering the heavy faults that have been charged against Mr. Blore's alteration, it is probable that Mr. Blore may not be unwilling to avail himself of a charge of plagiarism which he would otherwise have indignantly repelled,—all the more because Caserta occupies a foremost rank among the architectural achievements of the last century. That edifice, however, owes its celebrity rather to its vastness as a mass than to either nobleness or elegance of style or greatness of manner. Mr. Blore's building, on the contrary, is altogether deficient in the imposing quality of vastness—consequently in that which constitutes the chief "merit" of Vanvitelli's pile and renders it an impressive object." A correspondent writes to us as follows:—Mr. Editor: I recollect an observation by a late deceased architect, "that it was utterly impossible for an architect to make a satisfactory design unless he tried the general effect in a perspective sketch previous to carrying it into execution." Without wishing to prejudge Buckingham Palace, I would ask this plain question—Did the architect take this into consideration? For if he had, would he have committed such incongruities as present themselves, when there was so favourable an opportunity of giving character and outline to the palace and wings, by raising them above the other masses, and by introducing a good style of window, instead of those *slits* throughout. It is much to be regretted that by those who had the controlling of the design this was lost sight of. I make these observations more as a hint to young architects than from a disposition to censure.—A SUBSCRIBER.

COMMUNICATION BETWEEN GUARDS AND PASSENGERS.—Sir: There is one objection common to all the proposed means of communication between railway passengers and the guards, and which makes the Companies hesitate to adopt some plan otherwise excellent. The difficulty is this, that none of them provide any *sure check on the temptation to give false alarm*. One man among many could, of course, be pointed out by those in the same carriage; but—especially in first-class carriages—a passenger is often alone in a division, and then the more disposed to nervousness, or, perhaps, to mischief. Allow me to suggest that the objection may probably be removed by an adaptation of the very simple and effective contrivance, in use at the Pentonville Prison, for enabling a prisoner on the separate system to give notice, in case of sickness, to the officer in the long corridor. By turning a handle inside the cell, a rod through the wall throws open, at right angles, a metal label, on which is the number of the cell, and, at the same time, rings a bell common to all; so that the officer, at any distance, can see quickly where he is wanted. In its application to railway trains, for the purpose of striking a bell on the engine or near the guard, there should be attached permanently, to the upper edge of one side of each carriage, a slight iron rod (like a luggage rail), capable of being moved freely in the suspending eyes by a handle within the carriage. At each end of the rod a short chain should hang; and when the carriages are connected as usual by the coupling chains, these small chains should (and could in a moment) be linked also. Labels should open, as at the prison, and be kept open by springs, to inform the guard the point of danger, and for the sure detection of a false alarmist, by night or day.

Lambeth. JOHN J. COLE.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—The report of the committee, read at the second anniversary meeting of the Society, held last week, gave a satisfactory account of the Society's progress. This was exhibited in the steady increase of members (now more than 350), more frequent communications, and in the readiness with which possessors of objects of antiquarian interest had lent them for exhibition. These results were, the committee considered, partly attributable to the impulse given by the late visit of the Archæological Institute to Norwich, many of the leading members of which had joined this society, and promoted its objects. The committee stated that they had elected the following antiquaries honorary members of the society:—The Marquis of Northampton, Lord Mahon, Lord Albert Conyngham, Lord Braybrooke, Sir Francis Palgrave, Professor Willis, Mr. Albert Way, Mr. Henry Hallam, Mr. J. Britton, Mr. Pugin, Mr. Edward Hawkins, and also the Mayors of Norwich, Yarmouth, and Lynn. Mr. Harrod read a paper "On some ancient shields in the ceiling of the south aisle of St. Nicholas Church, at Yarmouth," by Mr. T. W. King, Rouge Dragon, in the College of Arms, to whom the shields had been confided to be re-emblazoned. The Rev. R. Hart read a paper "On Thomas Walsingham's account of Litester's Rebellion, and how it was quelled by the warlike Bishop of Norwich;" and the Rev. James Bulwer made some illustratory remarks on several drawings of mural paintings in Crostwick Church, which were exhibited on the walls of the room. One of them represented the Seven Cardinal Sins, another St. Michael and Dragon; others, the Betrayal of Christ in the Garden, the Crucifixion, &c. There were more paintings on the walls of the church, the subjects of which were not distinguishable. They have been lately discovered by clearing away the plaster which covered them.

BIRMINGHAM SCHOOL OF DESIGN.—An address issued by the Committee of the Society of Arts and Government School of Design in Birmingham, shews that the school has now been in active operation upwards of four years. There are at present on the books 355 male and 135 female pupils, in all 490. The attendance is regular, and the conduct and improvement of the pupils gratifying. A grant of 350*l.* has during the last year been applied, with the sanction of the Board of Trade, in aid of the expenses of the school; but the subscriptions from the town and neighbourhood have not exceeded 260*l.* for the same period. The utility of such an institution is obvious. It is calculated to refine the taste of the inhabitants of the town by diffusing a knowledge of art; to improve the trade and manufactures by developing and cultivating talent for design; to raise the tone of morals by affording an opportunity of passing the evenings in the pursuit of a useful and elegant branch of study in the school, and by supplying the means of intellectual improvement in the lending library. Besides the pupils admitted gratuitously on the recommendation of a subscriber (each nominating one for every 1*l.* 1s. subscribed), the low price of admission (10s. annually to each female, and 12s. to each male student) renders its advantages accessible to a large portion of the less wealthy classes.

THE ANCIENT MONUMENT IN TRAFALGAR-SQUARE.—Some of our contemporaries have been foolish enough to believe that the sculptured tablets for the base of the Nelson monument had been sent to Woolwich to be cast, and that there really was a chance of seeing this unlucky monument of many things, finished before they die. In truth, however, we believe there is nothing yet ready for the caster, nor likely to be for some time to come. What in the world our able friend Mr. Grissell has been amusing himself with on the steps for these many months past, it would puzzle us to tell. We shall suggest to his late partner, the excellent member for Norwich, to move for a return of the "days that have passed" since the men began to work there, distinguishing those when one mason was employed from those when there was none. A fondness for *hoarding* seems not restricted to the precious metals.

UTRECHT CHURCH. — This curious old structure has been burnt down, through defects in the stoves it is thought.

PROGRESS IN CHESTER. — Our correspondent at Chester writes as follows:—We are proceeding with the sewerage of the place as fast as the funds placed at our disposal will allow, and I think it can be shewn cheaper than in any other place. We are now engaged in cleansing our courts, alleys, &c., and in removal of all nuisance likely to prove injurious to health. An improved system of cleansing the streets has also been suggested, and we are carrying out an improved mode of paving, both of which, if generally adopted, will also be conducive to health. A cemetery company has also been formed, under influential auspices, so that, in all probability, intra-mural interments will be abolished; but I object to the system of establishing joint-stock companies of this character, as these institutions ought to be "*pro bono publico*" exclusively. This system, to be carried out perfectly, will entail the necessity of closing up, with a seal, all the old graveyards, which will, of course, require a much larger capital than 5,000*l.*, the sum named to accomplish that object. We are trapping all our street gratings, and our sewers we are ventilating by passing the rain water-spouts into them, which, if not the most effective way, is the cheapest. It is useless to trap sewers unless you afford the means for the escape of the noxious gases generated in them. We want a better and cheaper supply of both water and gas.

SOMETHING IN FAVOUR OF THE LIGHT AND HEALTH TAX.—Sir James Wylie mentions the recurrence of certain virulent diseases in a spacious barrack at St. Petersburgh, where the victims of epidemic were three to one on the dark side of the edifice when compared with those who perished on the light side. Upon the same principle, it has been declared by Dr. Edwards, that deformed children are frequently the consequence of their parents having resided in obscure cellars. Dupuytren, indeed, is said to have demonstrated on more than one occasion the extraordinary connection existing been disease and darkness.—At a meeting of the inhabitants of St. Pancras, held on Tuesday evening last, to agree upon a petition for the repeal of the tax, one of the speakers illustrated the inequality of this tax by showing that while two houses in Soho-square, that paid 346*l.* rent, paid 14*l.* a year window tax, two houses in St. Anne's-court, near the square, that paid 66*l.* rent, paid 18*l.* 1s. 2d. a year window tax.

INTERIOR OF LINGFIELD CHURCH.—A great commotion may be raised by a very trifling occurrence when the elements of disorder exist. We incidentally wrote but two lines, saying the interior of Lingfield Church, Surrey, was "not very satisfactorily restored" (nothing very violent in this), and lo! eight communications were the result. One from the architect who had been engaged in restoring the outside of the church, disclaiming any connection with the inside; another from the respected incumbent, stating that the parishioners were very well satisfied with it, we inserted. The architect's disclaimer, and the inference that the restoration was made without professional assistance, speak volumes. We have since received the following complaint, of another sort, from Mr. W. G. Rogers, the well-known carver. He says:—"Sir: In the early part of last year (1847) I was waited on by the Rev. R. F. Fuller, rector of St. Peter's, Lingfield, Surrey, respecting the carved decorations for the church, such as reredos, altar-rail, pulpit, and reading-desk. I made three journeys to the church, took the several measurements, and, assisted by the clergyman and churchwardens, suggested several plans to appropriate some of the old screen-work, made a set of sketches, and one large full-sized drawing of one of the headings of the reredos with the chairs. On the 23rd of June I received a letter from the rector, desiring me to be in the way to receive the churchwardens, who would call on me about the carving,—but they have not yet called on me. I wrote, and received no answer: about a month after I wrote again, and then received an answer that the church was finished by some drill-carving machine. Will you do me the favour to notice this in your future paper and say if it is right that my time should be thus invaded by churchwardens hunting up for *cheap* church-carving decorations?"

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the work to be done in the erection of the Corn Exchange at Peterborough; the erection of the new church in Great Nelson-street, North, at Liverpool; and for extensive alterations and additions to the Devonshire County Prisons.

BUILDERS AND WATER COMPANIES.—A correspondent, who signs himself "Fair Play," writes as follows:—Sir: Knowing your willingness to expose the evils to which builders and others are exposed, I beg, through the medium of your valuable journal, to call the attention of the Commissioners of Sewers for the Metropolitan Districts to a serious source of annoyance, by which a great deal of mischief is sometimes occasioned to contractors for building sewers. The evil to which I wish to allude relates to the vast quantities of water allowed to run down the streets where sewers are being constructed, which frequently defy the endeavours of the workmen, and break into the excavations, loosening the earth behind their shores, which drop down in consequence, leaving the undermined ground to the mercy of water, and often causing a great deal of mischief. The turncock of the district, knowing the predicament in which the contractor is placed, commonly *turns on* three hours instead of two; this is to induce the contractor to "come out," i. e., pay him a weekly stipend to "turn on easy." Once or twice, while the work is going on, the turncock will pretend to forget himself and "turn on" with full force, to shew what he could do in case of any stoppage in,—his *wages*. Now, Sir, as the contractors are amenable to the water companies for any damage done to their pipes, the water companies ought to be held responsible for any damage done to the contractor's work through their *waste water*. I trust this matter will receive some attention from the higher quarters.

THE NATIONAL CLOCK.—When completed, the Westminster Palace clock will be the most powerful one in the empire. According to the specification given in certain Parliamentary papers which have been published, it is to "strike the hours on a bell of from eight to ten tons, and, if practicable, chime the quarters upon eight bells, and show the time upon four dials about 30 feet in diameter." With the exception of a skeleton dial at Malines, the above dimensions, as remarked by a writer in *Chambers's Journal*, surpass those of any other clock-face in Europe. The dial of St. Paul's is as yet the largest in this country with a minute-hand; it is 18 feet in diameter. The new one is to be an eight-day clock, and as perfect as possible. Its formation is to be under the direction and approval of Mr. Airy, the astronomer-royal. Among the conditions drawn up by him are these:—The frame to be of cast-iron; wheels of hard bell-metal, with steel spindles, working in bell-metal bearings, and to be separately shipped and unshipped. Accuracy of movement to be insured by dead-beat escapement, compensating pendulum, and going fusee. The first blow of the hammer, when striking the hour, to be within a second of true time. Galvanic communication will probably be established with Greenwich Observatory. The four sets of hands, with the motion wheels, it has been calculated, will weigh twelve hundredweight; the head of the hammer two hundred pounds; the weights from one hundred and fifty to three hundred pounds; and the pendulum bob, three hundredweight. One of the candidates proposes to jewel the escapement pallet with sapphires. The motion of the minute-hand is not to be constant; it will move once every twenty seconds, when it will go over a space of nearly four inches. The papers alluded to contain the names of three candidates for the honour of making the national clock—Mr. Vulliamy, Mr. Dent, and Mr. Whitehurst of Derby. Two estimates have been sent in, one for 1,600*l.*—the other, 3,373*l.* "As it is intended," says the astronomer-royal, "that this clock should be one of which the nation may be proud, I would propose that the access to it should be a good one, and even slightly ornamented, and that facility should be given to the inspection of the clock by mechanics and by foreigners."

FIRST COMPENSATION CASE, BATTERSEA.—Mr. Chabot's case is, we understand, to be taken to the Court of Queen's Bench.

SINGULAR MONUMENT.—The *Daily News* gives the following account, from Rome, of a curious monument lately produced there.—"The lovers of eccentricity are glad to know that Dyce Sombre is to be among us to-morrow; and the sculptor Tadolini, who has been 20,000 dollars out of pocket in erecting a monster mausoleum to his grandmother, the begum of Sumroo,—hopes he may get repaid. This mausoleum is, by Dyce Sombre's directions, adorned with over twenty marble statues of various personages:—the begum herself smoking her hookah in grand state on the top of the cenotaph, and Dyce (aforesaid) in full uniform standing sword in hand before her. There are angels performing various operations,—also a platoon of sepoys in black marble, and a few elephants:—being the drollest monumental conglomeration in Europe." We observe since, that the Court of Chancery have granted a sum of money to pay the sculptor, and bring the monument to England.

ARCHÆOLOGY.—The last number of the *Literary Gazette* is rich in notices of antiquarian works,—including Mr. Bateman's "Vestiges of the Antiquities of Derbyshire," Mr. Beale Poste's "History of the College of All Saints, Maidstone,"* Parts IX. and X. of Mr. Roach Smith's interesting "Collectanea Antiqua," and an article on French archæology.——The British Archæological Association will meet this evening (Friday).——The Archæological Institute has interfered to prevent, if possible, the proposed destruction of the stone rood-screen at Christ Church, in Hampshire, concerning which a letter appeared in our columns some time since. According to the *Athenæum* the following are amongst the arguments for its preservation which have been transmitted to the Earl of Malmesbury:—1. Because the amount of space in the nave and transepts allotted to the congregation is more than sufficient at present, and the removal of the rood-screen, and the conversion of the nave and choir into one large auditorium, would be practically inconvenient, inasmuch as the clergyman, who is now imperfectly heard, would be wholly inaudible to many of the congregation; and, 2, Because the church shews the most perfect arrangement of a conventual building extant, being complete in its nave, aisles, transepts, chancel, ladye chapel, sacristy, chantry chapels, and reredos, which remain undisturbed in their ancient proportions; further, that the stone rood-screen exhibits, even in its shattered state, the remains of certainly the most beautiful rood-screen of the time of Edward III. in this country, its double tier of niches being chaste in design and of bold and masterly execution.

THE GREEK SCENE AT THE ST. JAMES'S THEATRE.—At the beginning of 1846 we gave an engraving of the scene which was painted for the representation of that noble tragedy, "Antigone," at Covent Garden Theatre, and described, at some length, the ancient Greek stage † from which it was taken. Following a good example, the enterprising Mr. Mitchell, in producing the same tragedy by the French company, at the St. James's Theatre, has prepared a similar scene, not quite so elaborate as that we have alluded to, but preserving the main features.

MR. WARD'S MEZZOTINTO ENGRAVINGS.—We have had occasion before this to mention some very effective heads by Mr. G. R. Ward. He has now completed an engraving of the Right Hon. Sidney Herbert, M.P., after F. Grant, A.R.A., which merits commendation; and he has in hand portraits of the Earl of Harewood on horseback, with hounds; Mr. Hudson, M.P.; Mr. Dover, M.P.; Mr. Brooke, Rajah of Sarrawak, and Sir Tatton Sykes on horseback, all after the same artist.

BATHS AND WASHHOUSES.—The Town Council of Liverpool resolved, on the 11th instant, to raise 25,000*l.* for carrying Sir Henry Dukinfield's Act into execution. The corporation of Liverpool have already two establishments of public baths and washhouses in active operation.——The London establishment are seeking assistance, and ought to have it. In furtherance of the model baths, &c., in Goulston-square, the committee have incurred great liabilities. We would direct attention to their advertisement.

ESCAPE OF ST. SAVIOUR'S, SOUTHWARK.—On Tuesday last St. Saviour's Church narrowly escaped being burnt down by fire, which originated amongst the coffins in the vaults. It is supposed that a spark fell on some sawdust during a funeral. How much longer will the suicidal practice of burying in churches be continued?

* "When the noble proprietor (the Earl of Romsey) determined recently to alter the destination of these buildings, and for that purpose cleared away the numerous additions and encumbrances that had been rendered necessary by their application to farming purposes, it was found that a very large portion of the original edifice remained almost uninjured, and might, without much difficulty, be restored, so as to form a very interesting example of the domestic architecture of the middle ages. Mr. Beale Poste, who, residing on the spot, watched carefully the process of the alterations, has, in the volume before us, given a careful description of these interesting remains, accompanied with a history of the college, and some valuable notices of the collegiate church, which now forms the parish church of the town of Maidstone. The present remains of the college consist of a range of rooms with cloisters and tower, supposed to have been the kitchens and lodgings of the priests, and believed to be the most ancient part of the remaining buildings; what is supposed to have been the master's house, a tower near the master's house, a large gate-way tower, two large barns, and a second or back gate-way tower, the latter partly in ruins. The only portions which seem to have been destroyed are, a building to the left of the principal gate-way in the meadow, part of the range of rooms and cloisters above mentioned, and, as it is supposed, some cloisters attached to the master's house. Since these buildings were cleared in 1845, Mr. Poste informs us that the remaining cloisters and one of the barns have been removed, and some other alterations in the buildings have been altered, in accordance with the change in their destination."—*Literary Gazette*.

† Vol. IV. p. 18.

TO CORRESPONDENTS.

"*An Architect.*"—We will inquire into the matter complained of.

"*A. C.*"—We will refer to the syllabus next week.

"*L.*"—We cannot give a safe opinion on such information.

"*H. P.*"—Write to Mr. Minton's manufactory. We think it may be done.

"*J. T. A.*"—We hope to use the drawing.

"*D. G. L.*"—We propose looking in at the "Scotch Church."

"*Architects' Plans.*"—A correspondent asks,—"An architect is employed to draw plans and superintend the erection or restoration of a public edifice—do such plans (after completion of work) become the property of the employers of such architect, or can they be retained by him as his personal property?"—It is customary for the architect to retain them.

Received.—"J. Y.," "J. L.," "W. C.," "J. C.," "W. N. G.," "R. K." (thanks), "J. P. W.," "A Subscriber" (We hope to keep his good opinion). "Subscriber" (Tredgold's Carpentry) "H. M. C." (thanks). "An Old Subscriber" (We have not time to give the information required). "B. W.," "H. S. H.," "J. D." (Trap). "An Architect" (Canterbury), "F. M." (Edinburgh), shall hear from us. "Designs for Schools, by H. E. Kendall, jun., Architect, F.S.A." Williams and Co., 141, Strand.

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only. 70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.

BRICKS.—The Advertisers are desirous of CONTRACTING with any person for the Supply of a large quantity of good sound Stock and Place BRICKS, to be delivered in the Regent's Canal, or elsewhere.—For further particulars apply by letter (post-paid) to THOMAS and Co., Builders, 8, Wilton-terrace, New North-road, Islington.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from ships from the Manufactories direct, at the lowest prices. A large Stock of every quality always on hand at the Wharf as above. Goods made to pattern at a short notice. Patent Corn Drying Malting Tiles. Lime, Sand, Gravel, Bricks and Tiles of every description.—Dutch Clinkers.

BUILDERS' BENEVOLENT INSTITUTION, Freemasons' Tavern, Great Queen-street, Lincoln's-inn Fields, for the Benefit of Deceased Masters; and also to afford Relief in case of Accident to their Workmen.

PRESIDENT.
Hugh Biers, Esq., Carlton Villas, Edgware-road.

VICE-PRESIDENTS.
S. M. Peto, Esq., M.P., Great George-street, Westminster.
Thos. Grissell, Esq., F.S.A., Lambeth.
Stephen Bird, Esq., Kensington.
William Herbert, Esq., Clapham-common.
John Vale, Esq., Devonshire-place.

TRUSTEES.
William Cubitt, Esq., M.P. | Stephen Bird, Esq.,
Hugh Biers, Esq. | George Spencer Smith, Esq.

TREASURER.—Mr. George Bird, 33, Edgware-road.

COLLECTORS.
Mr. Edward Herbert, 43, Crawford-street, Marylebone.
Mr. Charles Jackson, 3, Paradise-terrace, Holloway.

SOLICITORS.—Messrs. Jaques, Edwards, Jaques, and Layton, 8, Ely-place, Holborn.

BANKERS.—Sir Samuel Scott, Bart., and Co., 1, Cavendish-square.

SECRETARY.—Mr. William Grubb, 7, Stucley-terrace, Camden Town.

The Managing Committee have great pleasure in announcing that this Charity is progressing most satisfactorily, the support they have already received is far beyond their expectations; still it requires the united aid of the various branches of the Building Trade to carry out this laudable and philanthropic undertaking, so as to enable the Committee to commence granting relief at an early period, which appeal, they trust, will be responded to with energy and zeal.

Subscriptions will be thankfully received by the Treasurer, the Bankers, and the Collectors.

The Rules and Regulations will be sent on application, and a List of the Patrons of the Institution will shortly be printed.

Offices, Poland House, Broad-street, Golden-square, where all communications are requested to be sent.—Attendance, Mondays and Thursdays, from 10 to 4 o'clock.